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of the

South Carolina

GREENVILLE, S. C., JANUARY, 1939



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BACKGROUND

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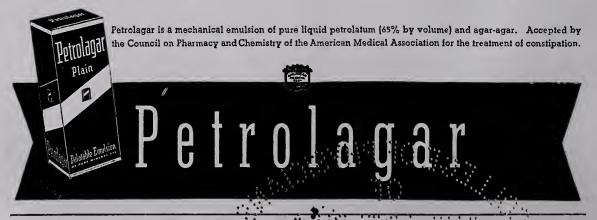
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VOLUME XXXV

JANUARY. 1938

Number 1

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The Status of Official Drugs Versus Non-Official

By W. D. STROTHER, COLUMBIA, S. C. University of South Carolina,

American pharmacy is confronted with a very embarrassing situation in that the professional courses now required for registration are longer and more exacting and the demand for professional pharmaceutical services seems to be diminishing. The manufacture of official preparations which a few decades ago was almost entirely in the hands of the retail pharmacists themselves, has almost all been given over to the large scale manufacturers. In addition there is a great volume of business in non-secret medicines which physicians are induced to prescribe by name instead of writing a detailed prescription for each patient. This has led to the development of commercialism in pharmacy to a degree not yet experienced in other countries, and the independent pharmacist who desires to maintain his professional status is having a difficult time to hold his own.

Many of the official preparations can be prepared and standardized more efficiently by the large pharmaceutical companies, than by pharmacists in drug stores. It is also true that these companies, through research, from time to time, develop new remedies that have merit. These companies deserve a great deal of credit for their services to the medical profession. Let it be clearly understood, that it is not the intention of your Extension Committee to do or say anything that would in any way cast

adverse reflections on any corporation that is actually rendering a professional service to medicine and pharmacy. It is not the intention of the Extension Committee to express an opinion on the merits of advertised brands of chemicals and pharmaceuticals. The individual companies have done that quite successfully. It is our plan to state facts as we believe they should be given, in the interest of professional pharmacy, in the interest of improved prescribing, and in the interest of the patient.

In undertaking a task of this kind, we shall, therefore, from time to time, give information to physicians and pharmacists, who express a desire for such information, on the comparative cost and composition of various trade marked preparations, when these preparations are identical or closely related to an official preparation, and to give the cost of the active ingredients used in specialties when the prices seem exhorbitant.

The members of the Extension Committee have been trained as ethical professional pharmacists. They realize that it is not their business to attempt to dictate to the physicians what medicines they shall use in their practice. We have been trained to believe our job is to give the physicians what they desire without asking questions. This the professional phar-Read before the South Carolina Medical Association, Myrtle Beach, S. C., May 19, 1938. APR 201940 have watched your specialty premacists have done for generations, and while

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scription ingredients increase greatly in number. We have watched the prescription stock of drug stores increase in value and their income decrease on this stock. We have watched your patients pay higher prices for their medicine and we have watched the pharameists' profits slip from the cash register into the hands of pharmaceutical houses to pay for brand or patent names.

The Extension Committee belives you do not desire that such conditions should exist. We believe you have your patients' interest at heart. We believe as one profession to another you desire to work to our interest, after the patient has been adequately cared for. We have watched these things happen and have said nothing. We have watched your offices become filled with samples, which then pass into the hands of your patients. We know these same patients come into drug stores and call for these preparations by name. We know some of your patients are practicing self-medication as a result of these samples. We know selfmedication is a practice undesirable to the best interest of professional medicine, and we are led to believe you are becoming confused by the great number of specialties that come into your office.

With these thoughts in mind, the pharmacists of South Carolina through the cooperation of the University Extension Division and the School Pharmacy, as well as the pharmacists in many other states, are attempting to encourage physicians to write prescriptions for more of the official medicines. It is believed by so doing you will help solve a problem that is confronting both the pharmacy and the medical professions.

In promoting more interest in official medicines, we in South Carolina are not instigating something new. We are following examples set by several other states; among them are New Jersey, Maryland, West Virginia, Illinois and Mississippi. Georgia has done some work and is now planning an intensive statewide publicity program. This is not a problem of pharmacists alone, it is a problem of physicians, teachers of pharmacy and teachers of medicine. The Extension Committee is proud to announce that many of our outstanding leaders of medicine have endorsed

this program. Thirty-five per cent of the physicians in South Carolina have expressed their desire to support a movement they believe will help them as well as their patients.

The thought in the minds of all who have interested themselves in this work, center around three recognized evils of pharmacy and medicine. These evils are substitution, counterprescribing and self-medication. If the use of samples, with the original label attached, in medical practice could be eliminated, and prescriptions written for the various medicinals desired in such a manner that the patient would be unable to interpret them, the problem of self-medication would be greatly improved.

A true story told me only recently by a retail pharmacist, will, I believe, forcibly illustrate the sample problem. A physician, after diagnosing the case, handed his patient a sample of a proprietary medicine. In a comparatively brief period of time one pharmacist sold this same preparation to eighteen different people. Each sale was made as a result of one person telling another and all going back to the original sample. The pharmacist made a notation of the names of the purchasers and later submitted the names to the physician. The physician recognized ten of these people as his patients. Has this physician promoted self-medication? Are you giving away samples? If you are, our committee believes no better scheme could be devised to promote this practice. This results in a financial loss to you. Self-medication is a practice we all try to discourage.

Counter-prescribing — Our Committee does not attempt to justify counter-prescribing under any conditions. We believe, however, that when physicians prescribe and send their prescriptions to drug stores to be compounded, less counter-prescribing will be observed. We shall in our program do everything we can to discourage this practice.

Substitution — We strongly condemn this practice and recommend that pharmacists purchase chemicals and pharmaceuticals from only the most reliable companies recognized for their high quality medicinals. Before pharmacists can expect this program to succeed they must see that this important part of their work is adequately taken care of. The com-

mittee believes, however, that if more official medicines are prescribed there will be less substitution.

A few weeks ago a physician wrote that before pharmacists could expect much cooperation from physicians, they would have to clean house themselves. The Committee recognizes that much house cleaning would be in order, but let it be borne in mind that this program is being promoted and financed by an educational institution, from the standpoint of benefits that will be received by the patient. If you prescribe to the best interest of the patient, the committee and the pharmacists of the state can ask for no more. When this is done we believe you will be benefited, and we know the pharmacists will be better satisfied.

If you prescribe to the best interest of the patient, self-medication and counter-prescribing will be discouraged. The problem of substitution will be greatly improved. The use of chemicals and preparations of unknown composition will be abandoned. Ethical pharmaceutical practices will be encouraged and a better understanding between pharmacists and physicians will be promoted. Prescription profits will increase and prescription costs will decrease. When this is done the patient will have more money to pay the physician for his services and to pay the pharmacists for the medicine he has received.

To illustrate, a pharmacist in our state related the following condition that exists in his store. Physicians are sending to this store on an average fourteen prescriptions per week calling for a medicine by a trade name, composed of two common basic official drugs. This prescription had to sell for \$1.75. The pharmacist stated that if the physician had written for the two official ingredients, the prescription could have been compounded and sold for \$1.00, and his profits on the money invested would have been greater. If this saving of \$0.75 is multiplied by fifty two weeks and then by the number of stores in the state the figure becomes quite significant, a total of \$260,-000.00 per year. We know of course this identical prescription would not be filled in all stores to the same extent, but we do know that this store, as a representative of a typical store in South Carolina, fills many other prescriptions each week illustrating this same point. The total amount that might be saved in South Carolina would at best be difficult to estimate.

Dr. Bernard Fantus of the University of Illinois in the March 19th issue of the Journal of the A. M. A. states. "In such large institutions as the Cook County Hospital, the saving resulting from cooperation between prescribing physicians and dispensing pharmacists might easily run into such a huge sum that I hesitate to mention it."

We believe you are interested in your patients and in pharmacy. I base this belief in part by the magnificant response you have shown in reply to my letter of April 8th; more physicians and pharmacists have expressed their willingness to aid in the promotion of this endeavor as a result of this one letter. than we had hoped to expect. Other states have not had as much interest manifested even after a much longer period of time. The Committee believes this is because the time is ready for such a program, and that we are especially fortunate in being able to interest such men as the president of our state university, the dean of administration and the director of the extension division, in this work. The Committee believes, you believe in these men. We believe you have confidence in our program.

A few remarks that have been made by men of national prominence, further lead me to believe physicians in general are interested in the future of pharmacy. First let me quote Dr. J. Leon Lascoff, nationally known professional pharmacist of New York City. "I believe that in the history of our two professions never has the physician been so interested in pharmacy and in what the intelligent cooperation of pharmacists can do for him and his patients.

Dr. H. V. Arny, Dean of the School of Pharmacy of Columbia University states, "Thinking physicians realize that the ideal administration of medicine is by means of carefully thought out prescriptions, and by the prescribing of hundreds of elegant and effective preparations found on the pages of the U. S. P. and N. F."

Charles E. Wilson, Director of U. S. P. and N. F., says, "Both professions have a place in the world, both have definite obligations to the

public. We cannot meet these obligations when we permit petty jealousy to cloud the issue."

"Our ideals can be accomplished through honest and sincere cooperation. We need you you need us."

Until we have this cooperation, pharmaceutical associations, pharmacists, extension divisions and the physician himself will be handicapped in their efforts in rendering the most efficient service to patients who are compelled to pay, too often for a protected name, and receive in return no more benefits than could have been expected from the less expensive official medicine.

In training students for pharmacy, teachers are compelled to place the main emphasis of their teaching on the official medicines. It is in this phase of pharmacy that these young men and women can serve you best. It is practically impossible for even an old and experienced pharmacist to be familiar with all the new remedies he is forced to purchase.

"With closer relationship both professions can and will improve, mentally, physically and financially. It means also that with this improved relationship petty jealousy is not permitted to cloud the issue to the extend that both professions forget their duty to humanity, which in reality is our only excuse for either being pharmacist or physician.

There are many physicians in South Carolina who are desirous of changing these deplorable conditions, but their thoughts and desires amount to nothing unless they can find among the pharmacists a corresponding disposition."

In this Extension Program, the committee realizes one of your most serious problems is going to be to find pharmacists who are equipped or even willing to help you in this endeavor. In order to make this program as effective as possible, we shall, therefore, strive to create among our own profession that disposition so necessary for the success of any cooperative program.

Some Problems in the Conduct of Labor

By J. D. Guess, M. D., Greenville, S. C.

The remarks that I shall make will convey no new information to you. They will be in conformity with your own knowledge and experience. However, the finding that we think alike will serve to further convince you of the soundness of your own belief and may help you to follow more tenaciously the dictates of your own obstetrical conscience and to hesitate to take chances in the conduct of labor which are against your better judgment. Furthermore, I shall try to bear in mind that most of you practice in small towns and in rural areas, and that most of your deliveries are conducted in the homes of your patients, and that problems of delivery in such environment are utterly different in their solution from those of hospital deliveries. Furthermore, I am keenly aware of the fact that your problems are handled very differently from the way such problems are handled by such delivery services as that of the Chicago Maternity

Center where more or less well trained assistance and adequate, properly prepared supplies are available on short notice. When such men as Dr. Lee state that it is safer to have a baby at home than it is in the hospital, I think they are unfair to doctors whose home deliveries are conducted under conditions such as are yours and mine, and that they are unfair as well to all but the most careless hospitals. A careless or an unscrupulous obstetrical attendant is even more dangerous in the home than he would be in even a fairly well operated hospital.

Delivery conducted in the homes of patients for whom we practice presents problems in complicated cases which are peculiar not only because of the unsuitable environment but also because of lack of trained assistance and suitable supplies. In such complicated cases we may justly claim extenuating circumstances when the outcome is unfortunate. But in nor-

mal cases and in cases where they would have continued in a normal manner had we not in haste or because of an exercise of faulty judgment interfered we can claim no such immunity to criticism.

The primary problem of the obstetrical attendant is to preserve the life and the health of the woman in labor, to deliver an uninjured baby, and to prevent such maternal suffering as he can without unduly jeopardizing the life or the health of either mother or baby. In so far as he fails to accomplish these, has he failed to justify his attendance on the case.

The early and preparatory step in solving this problem has to do with the matter of antenatal care. Antenatal care is often neglected, and yet both statistics and ordinary reasoning point conclusively to its value. Unfortunately many of our physicians have not given this matter the attention which it deserves and are not aiding in educating the public to demand such care.

In briefly summing up what is accomplished by careful antenatal medical care, one might say that it yields a knowledge of maternal defects and deviations from the normal course of pregnancy and offers an opportunity to correct and remedy them; it brings to the physician a knowledge of existing disproportion between the sizes of the maternal pelvis and the fetal head when such exists and allows him to prepare for resulting difficulties in labor; and it develops confidence on the part of the patient which tends to alleviate her suffering and assures a greater degree of cooperation from her.

Studies of maternal mortality by the Committee on Maternal Welfare show conclusively that the principal causes of obstetrical death are albuminuria and eclampsia (32.2%), sepsis (22.1%) and hemorrhage (13.4%).

Eclampsia may occur before the onset of labor, during labor or in the puerperium. Modern obstetrical experience well supported by statistics support the dictum, "In prepartum and intrapartum eclampsia treat the eclampsia and disregard the pregnancy." There are few exceptions to this, and none except in a good hospital. Any effort at quick delivery, except possibly cesarean section under local anesthesia, adds to the already overburdened mater-

nal organism, without any compensatory increase in chances of saving the baby. Any efforts at induction of labor or in hastening labor should be reserved until such time when convulsions are under control. The matter of the medical treatment of eclampsia cannot be gone into extensively. However, it consists in glucose solution intravenously, the intravenous or intramuscular administration of magnesium sulphate solution, morphine and other sedatives, rest and quiet. Sodium amytal or nembutal in moderate doses may be given by rectum to unconscious patients. Blood letting, colonic lavage, gastric lavage, inhalation of chloroform, veratrum and sweating appear to be not only valueless but actually harmful. Digitalis is of value in preventing circulatory failure, and atropine is valuable when edema of the lungs occur. Treatment such as this can be given very satisfactorily in the home, but it requires the almost constant attendance of the physician until the convulsions are controlled.

If convulsions occur after labor has begun, labor will probably proceed rapidly and terminate spontaneously. This fact should be borne in mind, and measures taken to protect the mother against infection and hemorrhage.

If antepartum convulsions occur labor frequently begins spontaneously. If it does not it is wise, in most instances, to induce labor after the convulsions have been controlled and the woman has regained consciousness and is definitely better. This may be done in one of two ways. The membrances may be instrumentally ruptured. This is the surer and better way, but catheter or bougie induction may be done if preferred. Since the indication is definite and time is a factor, it is usually unwise to attempt medical induction first, for so frequently this fails. In certain infrequent cases, cesarean section may be advisable.

Puerperal sepsis is usually an indication of a break in technique during labor or delivery. It is true that endogenous infections do occur and, perhaps, more frequently than was once admitted. Similarly there at times occurs an extension or a lighting up of a previously existing gonorrhea, giving rise to a septic-like febrile puerperium. The role of anaerobic cocci, already in the vagina, as a cause of throm-

botic pelvic infections in the puerperium has in recent years come into prominence. The patient herself may transmit infections with her fingers, as she indulges in the frequent practice of handling the vulva during labor. To guard against this, her hands should be thoroughly cleansed early in labor and she should be warned to keep her hands away from the perineal region.

However, admitting the truth of all that has been said, most serious infections are introduced by the attendant with his hands, his instruments or by droplet infection from his nasopharynx. This latter is perhaps the most frequent cause of the dreaded streptococcic infections, and it can be effectively guarded against if the doctor wears a mask covering nose and mouth during the conduct of labor.

One cannot be expected to even approximate hospital conditions in the poorer homes. The expense would be prohibitive, and it is hardly necessary in normal cases. But by training and care one can learn to very adequately protect his patient against hand borne and instrument borne infection.

First the patient should be prepared by shaving the vulval hair. It is impossible to cleanse the vulva or to keep it clean while the hair remains. A safety razor with blades is inexpensive and convenient. After shaving the vulva the perineum should be scrubbed with soap and water, Lysol may be added if desired. This cleansing should be repeated frequently and always before any vaginal examination and before delivery. The use of the various colored antiseptics or iodine adds nothing to the asepsis or antisepsis.

With rubber gloves as cheap as they are, there is little excuse for failure to utilize the protection which they afford to both the patient and the doctor. I can see little reason for their heat sterilization in the average home delivery. The doctor has so many duties to perform, that it would be impossible to keep them sterile. But rubber is more adaptable to cleansing than is the skin and when grossly contaminated with known pathogenic organisms the gloves can be boiled or discarded. It is good practice to scrub the hands while allowing the gloves to lie in lysol solution. After putting on the gloves, increase the strength of the

solution and frequently submerge the gloved hands in this stronger solution. This technique provides a relatively sterile but restricted field and relatively sterile hands. So far as possible one's activities should be restricted to this limited field.

Sterile instruments present a different problem. It is usually impracticable to boil instruments in the rural home. It takes time to build a fire, heat water, boil them for ten to twenty minutes and allow them to cool. Sterilization by immersion in lysol or cyanide solution is inadequate unless there is much time.

It is suggested that rustless steel instruments be used. These may be sterilized by boiling in the office. They then may be carefully wrapped in a sterile towel or kept in a closely covered sterilizer. With them may be included suture material and cord tape.

What about vaginal examinations? Granting for the sake of argument that this is the only satsifactory mode of examination during labor, there are still far too many such examinations made. The greater the number, the greater is the risk of serious infection. Those made after rupture of the membrances, but before the head has passed through the cervix are more dangerous than are vaginal examinations either before rupture of the membranes or after the head has reached the perineum.

But examination per vaginam is not the only satisfactory method of examination. perience with young interns convinces me that satisfactory rectal examinations are not difficult to learn and that in most instances they vield satisfactory information as to the degree of cervical dilatation and of descent of the head. It is more difficult to recognize position through the rectum, but the easiest way to determine position is by abdominal palpation. Rectal examinations protect the patient, and they conserve the doctor's time, for they require no hand sterilization or patient preparation. The same gloves used for delivery should not be used for rectal examination. Rubber finger cots are inexpensive and quite practical.

Hemorrhage can be treated of only briefly. There are two great causes of postpartum hemorrhage. The most serious is traumatism caused by operative delivery or delivery forced by the administration of pituitrin. These cases

are serious because the cause of the hemorrhage is frequently not promptly recognized, when the cause is discovered, the bleeding is frequently very difficult to control especially with poor assistance, poor light and poor position of the patient, and finally the hemorrhage is superadded to traumatic shock. The most frequent cause of postpartum hemorrhage is forcible efforts to hasten detachment of the placenta, which so frequently give rise to incomplete detachment in a uterus which is in the physiological resting period between the second and third stages of labor. Simple expression is a safe procedure, but it presupposes a recognition of placental separation and descent.

It should be remembered that much of the fluidextract of ergot is inert or almost so. The use of one of the newer of forms ergonovine alkaloid, ergoklonin, ergotrate, et cetera, is advisable and will help to reduce the incidence of hemorrhage.

Finally, the obligation of the physician to remain with his patient for a full hour after the termination of the third stage of labor—the obstetrician's hour—must be stressed. Adherence to this will save lives, and there is no substitute for it.

Although most labors will, if given sufficient time, terminate spontaneously, an occasional case will require interference. Interference in the home without adequate assistance and solely in the interest of the baby is not warranted. The risk to the mother is too great and the baby's chances of survival are usually not materially increased.

It should be remembered that the baby's chances are not jeopardized by long labor except as it applies to the perineal stage. It should be further borne in mind that rest is more imperative than immediate delivery when the patient becomes exhausted from long or hard labor, and that morphine is frequently life saving, where interference would prove deadly. How often are those who do much consultation obstetrics impressed with this fact.

Interference increases manifold the dangers of infection, and introduces the danger of serious trauma with its attendant incidence of hemorrhage and shock. Last year in South Carolina at least 28 women died as a result of or in spite of forceps delivery, 19 died after podalic version, 6 died after cesarean section, and 6 died after multiple attempts at delivery. Unfortunately, instrumental delivery infrequently improves the baby's chances at survival, and so frequent auscultation of the fetal heart tones has little value in home deliveries.

When operative delivery is clearly indicated there is usually no great need of haste, and every effort should be made to plan the set-up and the procedure with the greatest deliberation, and if possible medical assistance should be secured. In a number of the better maternity hospitals there is a definite rule, that before operative interference in labor and before cesarean section consultation must be had. Evidently these hospitals feel that haste is not essential, and incidentally it might be added that the requirement of consultation has greatly reduced the incidence of operative interference.

Anesthesia and analgesia in labor can not be discussed. Suffice it to say that it is the writer's belief that none of the newer methods of obstetrical analgesia are safely adaptable to home deliveries. We must still rely upon morphia, morphia and small doses of scopolamine, with or without added chloral hydrate, for pain alleviation during the first stage of labor and intermittent inhalations of either ether or chloroform in the late second stage. Personally, the writer prefers chloroform for intermittent administration. He finds it almost as satisfactory as nitrous oxide and oxygen, and he has never recognized any harmful effects in either mother or baby from its use in this manner, except a slightly greater tendency toward postpartum bleeding, and an occasional apnoec baby, and in these cases the drug has been too generously administered either by nurse or doctor. For prolonged anesthesia ether should be used.

It would be interesting to speak of episiotomy, perineal repair, retained placenta and peculiar dangers of podalic version which are seemingly so lightly undertaken by so many doctors, but time forbids.

Modern Usage of Digitalis

By John A. Boone, M. D., Charleston, S. C. Instructor in Medicine, Medical College of the State of S. C.

The story of digitalis runs through the history of medicine much like that of the hero in a Horatio Alger novel, with many ups and downs, frequent misunderstanding, but eventually winning out triumphantly over great odds. The drug was known to the ancients, who used it in many of their concoctions with no understanding of its action. The discovery of its properties in treating heart disease began when William Withering in 1775 singled it out of the brew of the old woman of Shropshire as the diuretic which caused so many of her remarkable cures of dropsy. After a few years, however, its chief clinical use had come to be in tuberculosis, and its effect in dropsy was largely forgotten. By some fifty years afterward its use had been restricted to cases of heart affections, but with little understanding of its real action or special indication. Toward the end of the nineteenth century Sir James Mackenzie, and later Sir Thomas Lewis, demonstrated its effect in slowing the tachycardia accompanying auricular fibrillation. So widespread was the influence of these men and the acceptance of their work that the use of digitalis was for years largely restricted to cases showing auricular fibrillation. In the past twenty years, however, due especially to the efforts of certain American physicians, the conviction has grown that the drug has a special beneficial effect on failing heart muscle regardless of the presence or absence of auricular fibrillation.

While the physiological mechanism through which digitalis exerts its effects are not yet by any means clear, it will be useful to consider two probable modes of action: the muscular effect, and the block-producing effect. First, it has a direct action on heart muscle whereby its tone is increased and its muscular bundles are shortened. While the analogy may not be exactly comparable, it may help to consider an elementary experiment in physiology: if a frog's gastrocnemius muscle is electrically

Read before the First District Medical Society, Walterboro, S. C., November 17, 1938.

stimulated while an increasing stretching force is applied to it, the force of the kick increases with the amount of stretch applied up to a certain critical point, beyond which the force diminishes. We all know that as the load the heart has to bear increases, it dilates and hypertrophies in an attempt to meet the strain. We might regard heart failure as the time when the stretching of the muscle fibers has gone beyond a certain critical point and further dilatation results in a weaker rather than a stronger beat. Digitalis, by increasing the tone of the heart muscle, shortens the fibers until they are back on the safe side of the critical point. This action of digitalis was known to the early experimental physiologists of the last century, but was neglected in the enthusiasm over the work of Mackenzie and Lewis on fibrillation.

Second, digitalis is able to slow the heart in auricular fibrillation. In this arrythmia, the ventricular conducting system is bombarded by very rapid electrical waves of varying rate and strength arising in the fibrillating auricles. The ventricles respond to as many of these impulses as their refractory period will allow, but because of insufficient diastolic filling at this rapid rate, they are placed at a disadvantage and lose much of their efficiency in propelling the blood. By its ability to increase the electrical block at the auriculo-ventricular junction, digitalis prevents the passage to the ventricles of all but a few of the stronger auricular impulses, resulting in a still irregular, but slower and more efficient beat. With this effect added to its direct muscular action, it is easy to see why the most spectacular therapeutic effect is obtained in heart failure accompanied by auricular fibrillation.

In large enough doses, digitalis is a poison, so that evidences of its toxic action should be reviewed briefly. Some of the more common symptoms are general malaise, headache, mental confusion, anorexia followed by nausea and vomiting, diarrhea and visual disturbances. Among these nausea and vomiting are common-

ly the most useful symptoms of overdosage. A fact that has struck me especially forcibly is that negroes are not nearly as apt as white people to show nausea and vomiting as a toxic symptom, so that other evidence of toxicity should be looked for with some care in the colored race. Another point is worth mentioning here: I have several times heard practitioners say that they use a certain brand of digitalis because it seems less nauseating than some others. But it is a fact that this nauseating property of digitalis is, as far as our present knowledge goes, inseparably tied to the therapeutic action of the drug. So when a drug salesman says to you that his brand of digitalis is less nauseating than the others, he is admitting to you that his brand is less potent therapeutically than the others. Among the objective signs of toxicity are various degrees of auriculo-ventricular block, as shown by a markedly increased P-R interval in the electrocardiogram or by dropped beats; the occurrence of extrasystoles, most often ventricular in origin, and frequently leading to a coupled beat; conspicuous slowing of a previously regular heart through depression of the normal pacemaker, which is not to be expected in a regular heart; the onset of ventricular tachycardia, especially the type which shows in the electrocardiogram an alternate reversal in the direction of the QRS complexes, which is a result of marked overdosage and often presages the occurrence of ventricular fibrillation and death.

There are certain contraindications to the exhibition of digitalis. First may be mentioned the occurrence of auricular fibrillation without congestive heart failure in the various "toxic states," such as hyperthyroidism, acute rheumatic fever, pneumonia, nephritis and septicemia. It is well known that slowing of the rate is apt to be difficult in these circumstances. and moreover a considerable body of evidence in the form of mortality statistics is beginning to indicate that digitalis is directly harmful in them. The specific reasons for this have not yet become clear enough to state with certainty. There is still some debate as to its indication when the fibrillation is accompanied by congestive failure, but the weight of evidence and opinion appears to indicate that the drug should be given here as in congestive failure from any other cause. In angina pectoris there is no hard and fast rule, but the attacks in general are made worse unless failure is present, when the majority will be benefitted by digitalis. There is some experimental evidence that in animals the heart's tolerance to digitalis is somewhat diminished following a coronary thrombosis. This should be considered a caution against overdosage rather than a contraindication to its use if the thrombosis is followed by congestive failure.

One of the clearest contraindications to the use of digitalis is vascular shock. Before the studies of surgical shock during and following the world war, there was frequently no sharp distinction made between circulatory failure due to paralysis of vascular tone and that due to failure of the heart as a pump. This led to the administration of digitalis to patients who "went bad" during various medical or surgical procedures and diseases, and to its prophylactic use when the onset of such difficulties was apprehended. The effect of digitalis on normal heart muscle is to contract the heart and to decrease rather than increase the output of blood for each beat. Thus in shock, where the effective blood volume is already decreased, the further adverse effect of diminishing the output of the heart is easily appreciated.

With reference to the dosage of digitalis, the need for individualization in each patient cannot be too strongly emphasized. While in any one patient the required amount of digitalis varies somewhat in proportion to the degree of congestive failure, patients will vary a great deal among themselves as to the actual amount required to produce a given therapeutic effect. In the majority of patients in only mild failure, the calculated dose on the basis of body weight will usually suffice to digitalize. most of those with extreme failure, the drug must be pushed to the sub-toxic level and there maintained. It is a very rare patient who, having once been digitalized for congestive failure, should ever be allowed to discontinue the taking of digitalis throughout the remainder of his life.

In the form of administration, few preparations ever have any advantage over the pills of powdered leaf, which are accurate in dosage, do not readily deteriorate and are relatively cheap. The tincture is a notoriously inaccurate form in which to prescribe it, being subject to evaporation and more rapid deterioration, and the wide variation in dosage from measurement with a medicine dropper. In diluted form, it is useful for rectal administration to patients who for any reason

cannot take the drug by mouth. The indications for parenteral administration are extremely rare, and the use of these preparations should be appropriately restricted.

Because of the short time available, I have had to treat many phases of this subject rather sketchily, but I hope I have given you a useful brief summary of modern digitalis therapy.

Fractures--Immediate Care--Treatment After Care--Expected Disability*

By Austin T. Moore, M. D., and James T. Green, M. D., Columbia, S. C.

The treating of fractures is indeed as old as medicine itself, and since the beginning of medical history the recovery of function has been considered of primary importance. However, function of the injured member is not always dependent upon a perfect alignment of the bone fragments, so this phase is given only secondary consideration.

During the ancient times rules of procedure grew up which were so tenacious and enduring that in the nineteenth century it was a general rule that the setting of fractured bones must not be done too soon, nor delayed too long. It was thought muscular resistance and swelling opposed immediate reduction and it was the custom to permit the swelling to come and go before reposition was attempted. Even today, there is a school of thought, small in its number of men, which advises that each fracture has a definite day to be set. idea certainly has at least one good point in that there is no inconvenience to the surgeon and every operation can be scheduled ahead of time. Today, however, every fracture is considered an emergency. There is no such thing as a simple fracture which can be laid aside and treated at the convenience of the surgeon. The earlier a bone is set after injury, the less will be the swelling. Fractures which have been properly reduced become increasingly more comfortable.

FIRST AID IN FRACTURES

The immediate care of fractures is divided into the first aid treatment as given by the safety workers in various organizations and the surgical care received in a well equipped hospital. The old axiom which gained popularity during the World War, "splint them where they lie," is one of great importance. The rough handling of fractured bones cannot be too strongly condemned. All of you have seen injured individuals picked up carelessly and rushed to a first aid station without due consideration of a broken arm or leg. All of you have seen football players who have been knocked unconscious carried from the field with arms and legs or the head dangling. Unintentional roughness by fellow workers or friends at the scene of the accident, when all are somewhat excited, may do enough damage to the nerve or blood supply so that the usefulness is partially or completely lost. type of handling may mean the difference between complete recovery, partial or total disability-or even death. Many patients with spinal injuries may be made worse or permanently paralyzed because of inadequate knowledge of transportation. The spinal cord may be completely severed by carrying the patient in a folded jack knife position rather than being carried on a stretcher face downward. When a tourniquet has to be applied to control hemorrhage, it is necessary that it be properly placed with pressure that is neither

^{*}Read before The Second Annual State-Wide Safety Conference, Columbia, S. C., November 18, 1938.

too small nor too great. Inadequate pressure will prolong bleeding because only the return flow of blood from the part is obstructed. If pressure is too great damage is done to muscle and nerve tissue. The immediate care by the surgeon consists of the control of hemorrhage, shock and pain and the reduction of the bone fragments.

CARE OF SIMPLE FRACTURES

In the treatment of simple fractures the fundamentals are those of realignment of the fragments into good position and then adequate immobilization until bone healing is complete. Occasional wiggles by a curious surgeon to see if there is good union may be the cause of delayed union, or non-union. Prolonged swelling of the part must be prevented. Whenever the swelling persists many changes take place within the joints, muscles, nerves, tendons, etc., which may give a permanent disability. Adhesions are formed within the joints and thus the joint is "frozen." In the cases of "frozen" hands, it is with great difficulty and untiring effort that complete or even partial function is restored. Swelling is indicative of strangulation and if the constriction is not removed, there is a possibility of gangrene resulting. Prolonged swelling can be prevented by elevation of the part in bed, hot wet dressings, complete immobilization and occasionally by cutting a cast that might be too tight. X-ray examinations are necessary in the diagnosis and the treatment of fractures. They are frequently unnecessary to determine simply if a fracture exists, but are necessary because of the importance to know the position of the fragments before treatment is undertaken. When there is a possibility of a broken bone a surgeon is foolish to treat the patient without X-rays as this might easily pave the way for litigation. Recently, I saw a patient who had been treated where X-ray facilities were not available. He had been given diathermy for a period of ten weeks but still had pain in his ankle. X-ray showed a fracture of both bones of the ankle with delayed union. In such a case, it might be necessary to operate on the ankle and possibly even to do a bone graft. This, of course, produces a long period of disability and there may even result a permanent disability. Many X-ray exposures can be made for the price of one permanent disability.

COMPOUND FRACTURES

If the fracture is a compound type, that is one in which the bone is exposed, immediate operative treatment of the wound and bone fragments is imperative. It has been stated that infection does not develop in less than twelve to twenty-four hours and that treatment of a compound fracture can be delayed for this length of time. This is exceedingly dangerous teaching. Proper cleansing of the wound should be done at the earliest possible moment. Infection may be well under way in six to eight hours, and it is better practice to make every possible effort to institute treatment within a period of four hours after the accident. A compound fracture always carries a poorer outlook than one in which the skin is not broken as there is always contamination with bacteria, and unless mechanical cleansing is done under a strictly sterile technique there will be a resultant infection of the part. If properly handled within a four hour period, almost every case will do as well as a simple fracture with open reduction. The matter of first importance is to render the wound surgically clean and to prepare the operative field. It makes no difference whether the wound is extensive or slight, the method is the same. The surgeon should scrub his hands for the usual full ten minute period and don sterile gloves. The wound itself is covered with sterile gauze, then a wide area surrounding is shaved and then washed with sterile soap and water, using sterile absorbent cotton. If the area is grossly covered with greasy dirt, it should be first cleansed with ether or benzene. The washing of the surrounding area should be done carefully, continuing for some ten to twenty minutes. Care should be taken not to allow the washings to run into the wound. After this area is carefully cleansed, fresh sterile gloves are put on and with a fresh supply of sterile material the wound itself is carefully washed for another period of ten to twenty minutes. Care is taken here not to further injure the tissues. Extensive irrigation with water or saline is carried out throughout the procedure. Antiseptics should not be applied to the wound

because those that are effective destroy tissue and thus an ideal culture medium for bacteria is created. If the fracture is mechanically of the type that needs internal fixation by the use of screws, plates, wires, or any of the other commonly used material, it is wise to apply them at the time of operation. If the wound is treated conservatively and realignment of the bone fragments is not obtained and a residual infection with a draining sinus is present, the golden opportunity to restore early function has been lost. The period of hospitalization or disability is increased many fold. A non-reduced infected compound fracture will be enormously expensive to the individual or to the insurance carrier, as there is a sequence of long hospitalization, non-union, repeated operations and possibly amputation. In addition to the medical expenses, there is frequently a permanent disability associated. Whenever a compound fracture is complicated by a lock jaw or gas gangrene infection, the situation then becomes exceedingly grave. To prevent such complications, there has been perfected antitoxins which are efficient and their routine use is urgently recommended.

LATER CARE OF FRACTURES

The later care of fractures involves a careful supervision until complete healing has taken place. X-rays are as valuable in the follow up care of a fracture as they are in the initial diagnostic period. Physical therapy is also very helpful and at times of great importance in the early restoration of function.

EXPECTED DISABILITY

There is expected to be a certain degree of temporary total disability in all bone injuries. In cases of skull fractures the extent of disability depends entirely on the damage done beneath the skull. Simple fractures of the skull heal readily but always there is some concomitant brain damage. At times there is seen a gross brain injury without apparent crack in the skull. In an uncomplicated simple fracture of the skull the patient should not be allowed to return to work in less than three months. Those with spinal column injuries will be disabled for a period of six months to one year. Here again gross injury may be done

to the spinal cord and no apparent damage done to the bony structure. The disability of forearm fractures is usually from two to three months and hand fractures usually six weeks to three months. In the fracture of ribs there is frequently a very brief period of disability, the treatment being immobilization of the rib and patient is soon allowed to return to work, Of course, fractures of the ribs involving the lung structures are much more serious. Hip fractures are very serious injuries. If it is possible to do a modern hip nailing operation, the period of disability is a minimum, possibly three to six months. Otherwise, there is a disability of one year temporary total with a residual permanent partial. The average disability of fractures of the thigh bone or femur is from six to nine months and fractures of the leg below the knee from four to six months. Knee cap fractures are serious injuries. They should be operated on to reduce the period of disability. With operation, the disability is usually about three months. The long bones of the feet usually recover without permanent disability. The heel bone has to be reduced accurately and treated by rest for a long time. Disability from fractures of the foot bones is usually about two months, except fracture of the heel bone which carries a period of disability from four to six months.

Disability in compensation cases differs from that in usual private cases. The injured employee frequently will claim a longer disability than is generally true in uninsured individuals because he wants to take no chances on releasing the insurance company from responsibility. Whereas, the private case goes to the man of his choice, the insured person usually has no choice in his surgeon but is sent to one who take care of that particular company's work. There may be a lack of confidence in the surgeon and distrust in the insurance carrier, the patient knowing nothing about either. It is important that the doctor adjust the patient psychologically, gain his confidence and assure the patient that the result will be good. Assurance that he is going to be dealt with fairly and have adequate medical care is necessary to the patient in order to have a minimum resultant handicap.

There are instances in which the patient will

overemphasize his injury and feign disability. In such cases a snap-shot diagnosis is dangerous and a most careful scrutiny on the part of the surgeon is necessary.

The cooperation of the employer is very helpful and the period of disability may be appreciably reduced if the patient is given light work before he is actually capable of resuming his usual full time duties. Occupation takes his mind away from his troubles and may prevent legal proceedings.

SUMMARY

In this paper the following ideas have been briefly set forth:

- 1. Proper knowledge of first aid is important in handling all fracture cases.
- 2. Some principles underlying the surgical care of simple and compound fractures have been enumerated.
- 3. The approximate period of disability in certain fractures has been suggested.
- 4. The cooperation by patient, surgeon, employer and insurance carriers has been stressed.

SOCIETY REPORTS

CHESTER COUNTY MEDICAL SOCIETY MEETING

The Chester County Medical Society held its regular monthly meeting at the Pryor Hospital on December 2, 1938. Dr. W. J. Henry, President, presided. This being the last meeting for 1938, election of officers for the new year was held. Dr. F. S. Chance was elected President, Dr. J. P. Young was elected Vice-President, Dr. J. N. Gaston, Jr., was re-elected Secretary and Treasurer and Dr. W. R. Wallace was elected delegate to the State Convention.

Dr. A. M. Wylie read a most interesting paper on Peptic Ulcer in which he discussed the problem in its entirety and showed a film on the surgical management.

Respectfully submitted, J. N. Gaston, Jr., Sec.

ANDERSON COUNTY MEDICAL SOCIETY MEETING

The Anderson County Medical Society met at the John C. Calhoun Hotel, Anderson, December 14, with Dr. John W. Martin, President presiding.

Members of the Anderson County legislative delegation were guests of the society at the luncheon and were thoroughly acquainted with health conditions in the county and also with the Anderson County Hospital. Appropriations for a proposed cancer clinic to be established in Anderson as well as appropriations for the county hospital were discussed during the course of the meeting.

At the business session the following officers were elected for the ensuing year, Dr. Herbert H. Harris, President, Dr. Ned Camp, Vice President and Dr. Herbert Blake, reelected Secretary-Treasurer.

GREENVILLE COUNTY MEDICAL SOCIETY MEETING

Dr. Emil Novak, associate in gynecology at Johns Hopkins Medical School in Baltimore, addressed a group of nearly 100 medical men gathered at the Poinsett Hotel, Monday night, January 2, for the Greenville County Medical Society meeting. Dr. Novak, who has gained international fame for his research into means of relieving male and female sterility, spoke on "The Endocrines in Gynecology."

Before the distinguished gynecologist spoke, a two-hour reception was held by the society for members and visitors and new officers for 1939 were installed. Dr. I. H. Grimball assumed office as President; Dr. C. P. Corn as Vice President; Dr. Mordecai Nachman as Secretary and Dr. R. M. Dacus, Jr., as Treasurer. Dr. Thomas Brockman was the retiring President.

THE JOURNAL

OF THE

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JANUARY, 1939

COUNCIL INDORSES FARM SECURITY ADMINI-STRATION PLAN FOR MEDICAL CARE

At a meeting of the Council held in Columbia on December 12, Dr. R. C. Williams, Senior Surgeon, United States Public Health Service, and Mr. R. F. Kolb, State Director, presented a new plan for the medical care of some ten thousand clients of the Farm Security Administration in South Carolina.

The plan in brief means that these clients will be loaned a certain amount of money with which to pay physicians and hospitals for their illnesses. Physicians will present their bills in the usual fashion as in their private practice, each client having the privilege of selecting his own doctor. In some instances it is conceivable that there will not be sufficient funds to pay the bill in full, but the machinery will be set up in such a way as to provide a satisfactory adjustment. Each society will appoint a committee on grievances, and all matters pertaining to the working of the plan will be under the control of organized medicine. The general plan will be presented to each County Medical Society for consideration and action as the society sees fit. It appears that more than half of the state societies have indorsed the plan up to the present time.

The Council was presided over by Dr. T. A. Pitts, Chairman. In addition to those already named the following persons were present, Dr. J. R. Des Portes, President S. C. Medical Association; Dr. L. M. Stokes, immediate past president; Dr. E. A. Hines, Secretary-Treasurer; Dr. F. G. Cain; Dr. J. D. Harrison; Dr. Hugh Smith; Dr. Roderick Macdonald; Dr. Julian Price; Dr. E. T. Kelley; Mr. L. S. Wolfe, Farm Management Specialist; Miss Margaret M. McGirt, Associate State Director in charge of Home Management Plans; Mr. Taylor A. Prewitt, Jr., Associate Regional Cooperative Specialist and Mr. John Miley, Cooperative Specialist.

SOUTH CAROLINA MEDICAL ASSOCIATION MEETS
IN SPARTANBURG, APRIL 11, 12, 13, 1939.
TITLES OF PAPERS WANTED
PROGRAM COMMITTEE

Many features of the Ninety First annual meeting of the Association have already been planned, but much work remains to be done. First of all, it is necessary to have a reasonable number of voluntary papers as has been the custom since the Association was organized in 1848. There will also be invited essayists in addition to the guest speakers from out of the

state. It has been generally conceded that the round table plan of discussing scientific subjects tried out for the first time at Myrtle Beach should be repeated.

Many of the committees in connection with the meeting have been appointed by the Spartanburg County Medical Society. Dr. D. L. Smith, Sr., is the General Chairman. The Program Committee appointed by the State Medical Association is as follows:

Dr. P. M. Temples, Chairman, Spartanburg

Dr. C. Williams Bailey, Spartanburg

Dr. W. M. Sheridan, Spartanburg

Titles of volunteer papers may be sent to the Chairman of the Program Committee or to the Secretary of the State Association.

SOME JOURNAL CHANGES

The Journal enters upon its thirty fifth year with this issue. From time to time improvements have been introduced looking toward a more attractive appearance as well as a more readable type. This is in line with the trend of developments amongst the state medical journals and the magazine world in general. A few of the State Journals have made radical changes in their cover designs particularly, but we have decided that a more conservative attitude will serve our purpose better at present and be more in line with the financial resources of our Journal.

We are providing for a new department on Pharmacy and Therapeutics in this issue under the direction of the School of Pharmacy of the University of South Carolina and cooperating with the School of Pharmacy at the Medical College, the South Carolina Pharmaceutical Association and other interests. This movement was accentuated at the Myrtle Beach meeting by the paper of Dr. Strother which appears in this issue and by the excellent pharmaceutical exhibit presented at the meeting. The New Jersey State Medical Society has been one of the great leaders in this country to promote a back to the U.S.P. and N.F. remedies on the part of the profession. We feel fully justified in taking this, step, since more than five hundred members logithe Association have definitely approved of the plan proposed and also a large number of the druggists of the

state. The paper by Dr. Strother deserves careful reading and we bespeak a thoughtful consideration of the new Department at the same time.

KEEP IN TOUCH WITH YOUR CONGRESSMEN NOW

President Des Portes has been very active in seeking personal interviews and by official correspondence in presenting the claims of organized medicine against all forms of compulsory socialized medicine to our Congressmen. Many other members of our official family and also many of the members of the State Association have done likewise. It is believed that this personal touch will go far toward influencing in the proper direction the minds of the representatives in Congress from South Carolina.

THE LEGISLATURE

South Carolina doctors have in the main secured the legislation most sought after for the good of the people whom they serve throughout our long history. This has come about by a mutual confidence and respect for the profession in this state. It is hoped that by and large this state of affairs may continue. It is certain that the medical profession has more at stake now than ever before from a legislative standpoint. It behooves every doctor to become more familiar with the problems and when called upon by the Legislative Committee of the State Association to render assistance that he be ready to respond. We do not know at this moment just what legislation will come up, but it is certain that a liberal appropriation for the Medical College will be one of our main objectives. Medical education has always been supported by the South Carolina Medical Association. The same is true of the State Board of Health appropriation.

DEATH OF DR. W. P. TIMMERMAN

The passing of Price Timmerman, as he was familiarly called, removes from the rolls of the South Carolina Medical Association one of its most enthusiastic and loyal members.

**Open Price Timmerman graduated from the Medical Coolege of the State of South Carolina in 1891

and shortly thereafter became a member of the State Medical Association. Very few members approached his record of regular attendance at the meetings of the State Medical Association, Dr. Timmerman was one of the early Councilors of the State Association after the reorganization in 1904. He gave of his best in that capacity and was rewarded by being elevated after a service of some ten years to the Presidency of the Association. Following his year as the head of the profession in South Carolina he continued to serve the Association in numerous capacities. He gave many years of his life to the Secretaryship of the Ridge Medical Society and as a correspondent for the Journal was a never-failing inspiration to the Editor. Dr. Timmerman probably knew more physicians in the South Atlantic States than almost any other doctor. He made it a point to meet the members of the Association and as far as possible to meet their families. He knew the life history intimately of many hundreds of doctors. He was prominent in the affairs of several other medical organizations including the Tri-State Association of the Carolinas and Virginia and the Southern Railway Surgeons' Association. Dr. Timmerman's contributions to the literature of scientific medicine were not extensive but were well presented and always worth while.

As a citizen Dr. Timmerman's interests were far above those of the average man in the community. He was deeply concerned about the welfare of his fellow man and the honor and integrity of the State. He was called to many offices as a result of his interest in such affairs. During the World War he was the medical member of his County Exemption Board and subsequently was appointed Major in the Medical Reserve Corps. of the United States Army. He served the City of Batesburg at one period of his life as mayor. He was connected with the Leesville Infirmary for many years. He was a general practitioner of wide experience and as such will be sorely missed by a tremendous circle of patients and

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SURGERY

WM. H. PRIOLEAU, M.D., F.A.C.S., CHARLESTON, S C

GAS GANGRENE

Serum treatment in gas gangrene has now been used sufficiently long so that some idea may be gained concerning its efficacy. In a fairly recent article (Ann. Surg. 105:257 Feb. '37) Maurice T. Bates gives a general consideration of the disease with particular reference to this point. The basis of the report is the comparison of a series of 18 cases occurring before 1932 in which serum therapy played a minor part with a series between 1932-36 in which serum therapy was used routinely. In the group not treated with serum the mortality was 56% whereas in the serum treated group it was 12%. In view of the fact that the surgical treatment was essentially the same in the two groups the marked improvement is attributed to the serum therapy.

While gas gangrene is commonly spoken of as a C. welchii infection, it should be remembered that other anaerobes are important etiological factors-while only one organism may be present, generally two or more are involved-vibrion septique and C. oedematiens next in frequency to C. welchii which is present in 80% of the cases. One organism may produce gas, another putrefaction with resulting odor and still another edema. Accordingly the clinical picture varies. In addition pyogenic organisms may be present, streptococci increasing greatly the virulence of the infection. Bearing in mind that these anaerobes occur in the intestines of man and animals and in fertilized soil we can predict to some extent the types of wounds in which we may expect gas gangrene to develop, and accordingly give prophylactic treatment.

Gas gangrene is essentially a disease of muscle which has been traumatized. The infection spreads mainly along the long axis. Upon this conception of the pathology is based the rationale of debridement of the involved muscle as a means of avoiding amputation. Where the blood supply to the whole part has been seriously affected, amputation of course is necessary.

The infected muscle tissue becomes brick red in color, and edematous; it loses its contractility. Later it assumes a blackish-green appearance.

Whereas gas gangrene occurs most commonly after compound fractures and severe lacerations, it has been found to follow numerous other conditions such as gunshot wounds, operations upon the intestinal tract, child-birth, and hypodermic injections. Amputation for diabetic or arteriosclerotic gangrene is not infrequently followed by this infection.

In all cases of clinical infection in the two series positive cultures of C. welchii were obtained. It is to be noted that some cases with positive cultures presented no clinical evidence of infection; these are not included in the cases reported.

In types of injuries most likely to be complicated by gas gangrene a prophylactic dose of serum is advised—1500 units of antitetanic and 1000 each of C. welchii and vibrion septique antitoxin. In some cases this should be repeated. Prophylactic treatment should be given before amputation for diabetic or arteriosclerotic gangrene.

Effective treatment of gas gangrene is dependent upon early diagnosis. In the cases reported the number of injections varied from 1 to 21, however in the majority of cases only one or two were given. The author advises that the serum be given every four to eight hours as long as there remains evidence of infection as manifested by elevation of temperature, increased pulse rate, mental clouding or local signs. All involved tissue should be removed by debridement or amputation as conditions demand. The wound is left open to the air or covered with a light dressing of hydrogen peroxide. The local area is watched for evidence of recurrence, and if this develops it is treated accordingly. Blood transfusions are important on account of the hemolysis which frequently takes place. The treatment is a judicious combination of surgery and serum.

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REPORT OF THE SOUTHERN MEDI-CAL AUXILIARY CONVENTION IN OKLAHOMA CITY

By

Mrs. C. P. Corn, Greenville, S. C.

I had attended three other meetings of the Southern Medical Association in the past ten years besides this one in Oklahoma City. When we arrived at the station for the convention on a special from Atlanta, we were greeted by a squad of twenty-five or thirty cowboys on horses who rode right into the station and started lassoing the doctors and making some of them ride horses back to their hotels. This incident of course, gave the proper western atmosphere on our arrival.

The executive board meeting opened the convention. Being a member of the board, I attended this breakfast which is a compliment from the Southern Medical Association. Mrs. Luther Bach, President, was in the chair. The two main items of business at the board meeting were as follows:

First:—The appointing of a special Jane

Todd Crawford committee to confer with the Advisory Council on a fitting memorial for Jane Todd Crawford. This committee will receive suggestions from the 17 states. The Kentucky Auxiliary had raised \$1,000.00 as a fund toward this memorial and the check was presented at this meeting in honor of Mrs. Luther Bach, the President, who is from Kentucky.

The second important business of the board was the election of the nominating committee. This committee was composeed of five women from five different states, three members of the executive board and two who are not members of the board. Following the breakfast the regular morning session opened the 15th annual meeting of the Auxiliary.

The usual invocation, welcome address, and responses were heard, followed by reports of officers and committee chairmen. There were only two officers present, these being the Treasurer, and the Parliamentarian. There were six past presidents in attendance at this convention. The impressive memorial service concluded this morning's session and we proceeded to the luncheon meeting.

There were about six hundred women present at this event. The toastmistress was Mrs. Wm. Hibbetts of Arkansas, and she made a very clever one. Dr. Able, President of the American Medical Association and Dr. Mc-Cormack, President-elect of the Southern Medical Association were speakers, as well as the National President of the Auxiliary, Mrs. Tomlinson. Following this luncheon, one of the most beautiful fashion shows that I've ever witnessed took place. The models were all doctors wives of Oklahoma City and they were lovely and graceful—some better than professional models.

At the night sessions, there were most interesting speakers. Socialized medicine was one of the chief topics and all seemed to be against it. At the second night session Dr. Jervey gave his address and this was followed by a reception and ball. Before the ball a group of Indians in costume gave some of their native dances, and concluded by making Dr Jervey a chief, by placing a feathered head dress on him as a crown.

At the next morning session of the Auxiliary the reports of the Councillors were heard. These were the state reports and were most interesting. The President, Mrs. Bach, next gave her report. Then the report of the nominating committee and election of officers took place. The following officers were elected:

President, Mrs. W. K. West, Oklahoma City, Okla.; President-Elect, Mrs. Chas., P. Corn, Greenville, S. C.; First Vice-President, Mrs. L. J. Moorman, Oklahoma City Okla.; Second Vice-President, Mrs. Olin Cofer, Atlanta, Ga.; Recording Secretary, Miss Grace Stroud, Louisville, Ky.; Treasurer, Mrs. K. W. Cosgrove, Little Rock, Ark.; Parliamentarian, Mrs. Gordon Ira, Jacksonville, Fla.; Historian, Mrs. W. W. Crawford, Hattisburg, Miss.

The installation service for the new officers then took place. Courtesy resolutions were heard and the meeting adjourned, after the gavel was presented to the new President, Mrs. West.

A 25 mile trip to Norman Oklahoma was an entertainment feature of the next morning. During the convention Dr. Corn and I attended a lovely buffet supper given by Dr. and Mrs. West for the officers, and a few other smaller affairs in the city. A beautiful tea at the country club, and a sight seeing trip to see the oil wells was most interesting. It was a wonderful convention, and the hospitality was unexcelled. The next convention will be in Memphis, Tennessee and I hope all of you will plan to attend.

COLUMBIA MEDICAL AUXILIARY MEETING

The Columbia Auxiliary to the South Carolina Medical Association held its first meeting of the fall at the home of Mrs. George Bunch Tuesday morning the first of November. Mrs. Izard Josey, the President, presided and the report of all activities of the organization were read.

Dr. W. A. Hart gave a talk in which he fully outlined the program of the recently organized Maternal Health Center in Richland County. The purpose of this organization is to advise patients, after complete examinations, with regards to future childbearing; the physically unfit are taught pregnancy spacing to relieve them of the burden of repeated pregnancies at short intervals and the childless are advised corrective measures. All applicants to this clinic are carefully investigated and no patients are accepted that are financially able to pay for this advice and the marital status is established to prevent the abuse of the clinic facilities.

Doctor Hart paid tribute to the able assistance rendered by Mrs. Izard Josey as treasurer and Mrs. Emmet Madden as clinic nurse who are serving without pay at these clinics which are held once a week.

Mrs. J. H. Cutchin, Publicity Secretary.

SPARTANBURG MEDICAL AUXILIARY MEETING

The first meeting of the Auxiliary to the Spartanburg County Medical Society met on Tuesday at the home of Mrs. John Fleming on Sherwood Circle with Mrs. Robert Dennis Hill, Mrs. D. C. Alford and Mrs. W. R. Esdale as joint hostesses.

Mrs. Hill was in the chair and after the meeting was called to order the business of the Auxiliary was discussed.

Five new executives were elected for the coning year and they are as follows: Mrs. Jesse O. Wilson, second vice-president and program director; Mrs. P. M. Temples as secretary; Mrs. J. C. Josey as treasurer; Mrs. H. E. Heinitsh county chairman for publication and Mrs. W. R. Esdale chairman for publicity.

Mrs. E. B. Saye was welcomed as a new member.

The Auxiliary voted to donate the place cards for the coming Nurses banquet to be held at the country club.

Of especial interest was the cup won last year for the scrap book in the State. This cup becomes permanent if won again this year.

The Secretary read an interesting letter from

Mrs. T. R. W. Wilson State Councillor who urges that an interesting and constructive program be presented at each of the meetings.

The meeting adjourned and tea was served by the hostesses.

Mrs. J. H. Cutchin, Publicity Chairman.

GREENVILLE MEDICAL AUXILIARY MEETING DEC. 5, 1938

Dr. John F. Rainey, local heart specialist, was the speaker at the opening meeting of the Auxiliary to the Greenville County Medical Society here Monday afternoon, December 5, at the home of Mrs. J. Warren White on Hillcrest Drive, a meeting over which Mrs. J. L. Sanders, president of the Auxiliary, presided. and which was attended by approximately 55 members and guests.

The meeting was marked by the presence of a number of distinguished guests, among whom were Mrs. Charles P. Corn, president-elect of the Auxiliary to the Southern Medical Association; Mrs. C. C. Ariail, president of the Auxiliary to the South Carolina Medical Society; Mrs. W. B. Furman of Easley, President-elect of the State Auxiliary; and Mrs. J. W. Kitchen, of Liberty, president of the Auxiliary in her city.

Mrs. Corn, who attended the recent meet-

ing of the Southern Auxiliary in Oklahoma City, spoke briefly of that interesting and important event, after she had been introduced by Mrs. Sanders. The Greenville Auxiliary enjoys a distinction that can be claimed by few other organizations in that both the president-elect of the Southern Auxiliary and the president of the State Auxiliary are among its members. Mrs. Corn is the first president that South Carolina has given to the Southern Medical Auxiliary which is composed of representatives from 17 states.

The president and one representative from each of the federated clubs of the city were invited to the meeting and with members of the Auxiliary, enjoyed the unusually entertaining talk by Dr. Rainey, who spoke on "Heart Disease—It's Prevention and Cure." He also showed an interesting and enlightening film of an ox heart in action. Dr. Rainey's address was in line with the special health program which the Auxiliary is sponsoring this year.

The Auxiliary voted a one-year subscription to "Hygeia" for the Red Shield Club rooms.

Following the program of the afternoon, a social hour was enjoyed while the hostesses, Mrs. White, Mrs. Mordecai Nachman, Mrs. Herbert Bailey, Mrs. B. C. Bishop, Mrs. W. W. Edwards, Mrs. Everett Poole, Mrs. Frank Daniel, Mrs. J. H. Crooks, and Mrs. R. M. Pollitzer, served tea, sandwiches, and cakes.

THIRD DISTRICT MEDICAL MEETING

The Third District Medical Society met at the Country Club, Newberry, S. C., Thursday, November 10, 7:00 P. M., with Dr. E. H. Moore of Newberry, President of the District presiding.

A delicious turkey dinner was served by the ladies of the Calvin Crozier Chapter of the United Daughters of the Confederacy after which the following program was carried out.

Address of Welcome-Honorable Thos. H. Pope, Jr., of Newberry.

The Evolution of Thyroidectomy, with lantern slides and moving pictures by Dr.

Addison G. Brenizer of Charlotte, N. C., read by Dr. R. E. Able of Newberry.

Fractures—Some Fundamental principles in Their Treatment by Dr. A. T. Moore and Dr. Green of Columbia.

Head Injuries by Dr. Roger G. Doughty of Columbia.

Coronary Thrombosis by Dr. Emmett L. Madden of Columbia.

The business session was then entered into and the following officers were elected for the ensuing year: Dr. W. P. Turner, President; Dr. J. E. Brodie, Vice-President; Dr. C. J. Scurry, Secretary, all of Greenwood. The next meeting will be held at Greenwood.

PHARMACY AND THERAPEUTICS

BULLETIN NO. 2

Dear Doctor:

Over 500 South Carolina physicians have replied to the letter sent to them by the Extension Division in regard to the U. S. P. and N. F. drugs. This excellent response confirms the committee's belief that you are interested in a program of this nature and that you would appreciate further information on official drugs.

In our first letter we tried to explain to you the financial disadvantages imposed upon the patient and the pharmacist, as well as upon you, by prescribing high priced specialties when an official preparation was available. It may be at times a disadvantage to the pharmacist for you to specify a particular company for an official product. Numerous reliable companies manufacture the official preparations recognized in the U. S. P. and N. F. The Extension Committee, therefore, suggests that, when possible, the name of the company making an official drug be omitted, and that the

Proprietary or Brand Name

prescription be sent to a pharmacist who buys his stock from reliable companies.

Recently a physician requested information from his pharmacist on a certain proprietary preparation that was costing the patient \$1.75 for each prescription. As a result of that conversation the patient is now getting a medicine compounded from official drugs for less than half of the original price; and in addition the druggist's profit was also increased. It is with these thoughts in mind that we recommend that you refer to the enclosed list of official and non-official drugs and give deserving consideration to your pharmacist and to your patients' financial interest when writing a prescription.

Your pharmacist is your best friend. Let him help you more.

U. S. P., N. F. or Chemical Name

Professionally yours,

W. D. Strother, Chairman, U. S. P. and N. F. Extension Committee School of Pharmacy, University of S. C.

A partial list showing some comparative prices of proprietary drugs with, in many instances, identical equivalent official drugs; and in other instances with preparations or chemicals that are so closely related that the superiority of one over the other has not been generally accepted.

Prices have been taken from the May, 1938, issue of the Druggist Circular Red Book, the July, 1938, issue of the American Druggist's Blue Book, and in a few instances from wholesale druggists. All prices quoted are wholesale.

Adalin Tablets, per 100 tablets	\$3.00	Carbromal Tablets, per 100 tablets	\$2.00
Argyn, per oz.	0.96	Mild Silver Protein, per oz.	
Argyrol, per oz.		Mild Silver Protein, per oz.	
Aristol, per oz.	1.80	Thymol Iodide, per oz	
Aspirin (Bayer), per oz.	0.75	Acetylsalicylic Acid, per oz	0.13
Atophen, per oz.		Cinchophen, per oz.	
Cargentos, per oz		Mild Silver Protein, per oz	
Chloretone, per oz.	1.00	Chlorobutanol, per oz.	0.33
Cresotal, per 1b. bottle	9.12	Creosote Carbonate, per 1b. bottle	2.38
Diuretin, per oz.	1.85	Theobromine with Sodium Salicylate, per oz.	0.27
Duotal, per oz.	1.07	Guaiacol Carbonate, per oz.	0.29
Empirin, per 1b.	2.74	Acetylsalicylic Acid, per lb	0.92
Empirin Tablets, per 100 tablets	0.85	Acetylsalicylic Acid Tablets, per 100	0.25
Kelene, per 100 grams	2.00	Ethyl Chloride, per 100 grams	1.40
Luminal Powder, per ½ oz	3.45	Phenobarbital Powder, per ½ oz	0.34
Luminal Sodium Powder, 1/2 oz	3.45	Phenobarbital Sodium Powder, 1/2 oz	0.34

Luminal Tablets, ¼ gr. each, per 100 tabs	. 0.63	Phenobarbital Tablets, ¼ gr. each, per 100 tabs.	.2
Luminal Tablets, ½ gr. each, per 100 tabs		Phenobarbital Tablets, ½ gr. each, per 100 tabs.	
Luminal Tablets, 1½ gr. each, per 50 tabs	1.25	Phenobarbital Tablets, 11/2 gr. each, per 100 tabs.	.4-
Luminal, Elixir of, per gallon	18.13	Phenobarbital, Elixir of, per gallon	3.00
Lunargen, per oz.	1.02	Mild Silver Protein, per oz.	0.5
Medinal, per oz	3.00	Barbital, per oz.	0.6
Metaphyllin Powder, per 25 grams	6.60	Aminophyllin Powder, per oz	1.7
Metaphyllin Tablets, per 100 tablets	3.40	Aminophyllin Tablets, per 100 tablets	0.7
Neuronidia, ½ pint	2.50	Elixir of Barbital, per ½ pint	0.4
Prontylin, per 1000 tablets	8.13	Sulfanilamide, per 1000 tablets	4.9
Protargol, per oz	1.25	Strong Silver Protein, per oz.	0.5
Pyramidon Powder, per oz	0.82	Aminopyrine Powder, per oz.	0.4
Pyramidon, Elixir, per gallon	18.13	Aminopyrine, Elixir, per gallon	9.13
Silloid, per oz	1.50	Mild Silver Protein, per oz.	0.5
Salysal, per oz	0.85	Acetylsalicylic Acid, per oz.	0.1
Silosan, per oz	0.60	Acetylsalicylic Acid, per oz	0.1
Silosan Tablets, per 100 tablets	0.67	Acetylsalicylic Acid Tablets, per 100 tabs	0.2
Solargentum, per oz	0.52	Mild Silver Protein, per oz.	0.5
Sulfanol, per oz.	1.70	Sulfonnethane, per oz.	0.5
Theocin Soluble, per ½ oz	2.50	Theophyllin with Sodium Acetate, per ½ oz	0.3
Theominal Tablets, per 100 tablets	2.75	Theobromine-Phenobarbital (plain) per 100 tabs.	1.4
Thiocol, per oz.	1.50	Potassium Guaiacolsulfonate, per oz.	0.2
Γolysin, per oz	2.00	Neo-Cinchophen, per oz.	1.0
rional, per oz	1.90	Sulfonethylmethane, per oz.	0.5
Jrotropin, per oz.	0.25	Methenamine, per oz.	0.1
Vaseline (Yellow) per lb	0.20	Petrolatum (Yellow) per 1b	0.1
Vaseline (White) per lb	_0.40	Petrolatum (White) per lb	0.19
Veronal, per oz.	3.00	Barbital, per oz.	0.6
Veronal, Elixir of, per 12 oz.	2.00	Barbital, Elixir of, per ½ pint	
Veronal, Sodium, per oz	3.00	Barbital, Soluble	

OCONEE COUNTY MEDICAL SOCIETY MEETING

The Oconee County Medical Society met at Walhalla, December 8, 3:30 P. M., Dr. E. C. Doyle, the President, presiding. The minutes of the last meeting were read and approved.

Dr. W. E. Baldwin the new Health Officer of Oconee County on invitation presented certain problems for consideration by the society among which was a request that the society approve of establishing clinics for the treatment of indigent syphilitics at Seneca and if necessary at Westminster. The society favored the plan proposed. The society also approved of the proposed visit of the State Board of Health Tuberculosis Traveling Clinic to the County during the month of February.

A discussion of the treatment of Farm Rehabilitation clients in Oconee County with other government health relief matters was entered into. Important matters about the Oconee County Hospital which has been completed and is now being equipped, were brought to the attention of the members of the society. The following officers were then elected for the ensuing year.

Dr. T. G. Hall, President, Westminster, S. C.; Dr. F. T. Simpson, Vice President, Westminster, S. C.; Dr. E. A. Hines, Secretary-Treasurer, Seneca, S. C.; Dr. James E. Orr, Delegate to the State Medical Association Convention, Seneca, S. C.

The delegate to the State Medical Association Convention was given the privilege of appointing his alternate in the event that he could not go. In addition to the regular members present there were two visitors, Dr. J. P. Booker of Walhalla and Dr. J. B. Wallace of Fountain Inn. There being no further business the Society adjourned.

E. A. Hines, M. D., Secretary

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. W. H. Kelley ABSTRACT NO. 370 (47382) October 7, 1938

Student Agnew (presenting).

Admitted May 8, 1938, died May 9, 1938.

The patient, a white male of 50 years of age, a laborer, admitted with the complaint of vomiting. Patient's condition was such that only a scant history was obtainable. On 5-5-38, he ate usual evening meal then drank some whiskey. Several hours later began to vomit undigested food. Nausea and vomiting continued until 7 P. M. of 5-7-38. Had been rather constipated and was given castor oil on evening of 5-5-38 and bowels were rather loose up until the time of admission. No pain except soreness of abdominal muscles attributed to vomiting. Has been a worker around T. N. T. for past 9 years. Had two similar attacks of epigastric pain, the last several months ago.

Physical examination: A well developed and obese white male of apparent stated age. There was profuse diaphoresis, the skin cold and clammy, the mucous membranes pale, the pulse weak and thready and the blood pressure too low to be accurately recorded. The respirations were rapid and shallow. Chest clear to percussion and auscultation. Heart of normal size to percussion. P. M. I. was weak and not well localized. Cardiac rate rapid, rhythm regular, heart sounds distant and of poor quality. No murmurs heard of thrills palpable. Eye grounds negative. The abdomen was obese and fairly right. There was tenderness to deep pressure over the entire abdomen, most marked over the epigastrium but with no definite localization. No organs or masses palpable. Peristalsis not visible but heard on auscultation. Genitalia not remarkable. Reflexes uniformly hypoactive.

Laboratory: Voided specimen of urine (5-8-38) alkaline in reaction, sp. gr. 1,007, albumen I plus, sugar negative, acetone negative, casts negative, occasional pus cell, blood negative, bacteria 4 plus. Blood (5-8-38) W. B. C. 24,000, Neutrophiles 93%, Lymphocytes 7%. Blood chemistry, (5-8-38) Urea Nitrogen 46.5 mgms., Creatinine 3.2 mgms., Sugar 182 mgms.

Course: Patient in the hospital 16 hours. Condition did not improve with general supportive measures such as application of external heat, intravenous fluids and stimulants. Nausea and vomiting of small amounts of dark brown fluid continued. The admission temperature was 97.6 with a terminal rise of temperature to 102.6 and patient expired at 3:40 A. M. 5-9-38.

Dr. Kelley: Mr. Greenberg, will you open the discussion?

Student Greenberg: In discussing this case because of its acute onset, there are several conditions that we must rule on as possibilities. First I would think of a perforated peptic ulcer. This would produce profound shock with nausea, vomiting and epigastric pain. There was however, no previous history of pain in relation to meals. Also, on physical examination the liver dulness was not obliterated as it would be from the presence of air from a perforated viscus, and an X-ray was not taken to substantiate this finding. A laparatomy would be required to definitely diagnose this condition. In intestinal obstruction one would expect an elevation of temperature with pain, distension and vomiting of fccal material. In absence of vomiting and abdominal distention I would rule this out. Mesenteric thrombosis could not be ruled out, but corroborative evidence as advanced arterial disease, with a cardiac lesion and eye ground changes were absent. Acute hemorrhagic pancreatitis could neither be ruled in or out. In any obese person over 50 years of age, with an acute onset of pain, vomiting and associated hyperglycemia, it could only be determined by laparatomy. In the advent of acute cholecystitis one would expect pain radiating to the back, but this alone would not rule the condition out. Acute appendicitis would produce all the symptoms observed in this man and would necessitate a laparatomy. Tabetic crises could produce fulminating abdominal pain simulating an intra-abdominal lesion but this has been ruled out in the history. Coronary occlusion could be ruled out definitely by an EKO. Also the leucocyte count of 24,000 with 93% polymorphonuclears is more characteristic of another lesion. In renal colic one would expect hematuria and pain radiating to the genital region. Food poisoning would be a possibility but one would expect an acute onset after a meal. Also food poisoning does not usually cause acute abdominal pain, vomiting, diarrhea and shock being the predominating symptoms. He has worked around T. N. T. for past several years but this type of poisoning is of a chronic nature and produces an unusual blood picture. We might think of cholera but it is unusually uncommon and occurs in epidemic form.

The things that could not be ruled out, in the order of their frequency are ruptured appendicitis, perforated peptic ulcer, acute pancreatitis and mesenteric thrombosis. These could be ruled out as producing symptoms of shock, with a high leucocyte count and localizing abdominal symptoms.

Dr. Kelley: Mr. Padykula, do you agree?

Student Padykula: I can't add further diagnostic possibilities but would think of mesenteric thrombosis or acute pancreatitis as most probable.

Dr. Kelley: What do you think of the possibility of tabetic crisis?

Student Padykula: With a negative history and no positive findings of central nervous system syphilis it is unlikely that the lesion could be explained on this basis.

Dr. Kelley: What is the mortality rate of gastric crises:

Student Padykula: As far as I know it is negligible.

Dr. Kelley: Mr. Porter, what do you think?

Student Porter: Outside the abdomen there are certain circulatory disturbances which may lead the clinican to an erroneous diagnosis of an acute surgical abdomen, notably: angina pectoris may cause referred abdominal pain and shock indistinguishable from an intra-abdominal lesion. This may also be associated with coronary thrombosis or embolism. An aneurysm of abdominal aorta may cause severe pain by eroding the vertebral bodies. It is however usually of long duration and not likely to produce sudden crises. Tuberculous caries of spine, similarly may produce pain but it is of long duration and usually associated with foci of tuberculosis in the lungs or elsewhere. Most of these things could be ruled out but I would suggest a mydriatic test for acute pancreatitis. This is done by placing a few drops of adrenalin in the eye which produces an irregular dilatation of the pupil in the presence of an acute pancreatic lesion. It is about 50% reliable.

Dr. Kelley: Does any member of the staff wish to participate?

Dr. Prioleau: Before the discussion started, I believed this patient was suffering from an acute pancreatitis, and I wish to defend this diagnosis. This patient presents a very severe abdominal catastrophy, more severe than the usual. Also there was persistent vomiting. There were also two previous attacks which are consistent with the usual story of acute pancreatitis. The high blood sugar points to a wide spread pancreatic lesion involving the islands of Langerhans. However I would not be willing to rule out acute appendicitis because after 50 years of age it may present some unusual findings.

Dr. Kelley: There was not much we could do for this man because he was in extremis on admission, and we were certain that he was suffering from a major abdominal catastrophy, either a perforated gastric ulcer or an acute pancreatitis. In the former condition a flat plate of the abdomen might have revealed the presence of air beneath the diaphragm, particularly if it were possible to sit the patient in the erect position.

Dr. Lynch: Before going further I would suggest that we eliminate such terms as an acute abdomen or an acute surgical abdomen from our nomenclature. The word acute signifies a rapid onset and I think the designation acute abdominal catastrophy is much more accurate for these cases.

I am surprised that dissecting aneurysm was not mentioned among the possibilities, as it is a good deal more common than many of the possibilities enumerated. This is a case of acute pancreatitic necrosis, the pancreas being the site of a large infarct. The pancreas is swollen and hemorrhagic with considerable disintegration toward the tail, grading out to a localized hemorrhage in the head. A thrombus was found in the pancreatic artery and I thought at the time of athermatous lesions in the arterial wall as being the predisposing cause. On re-examination, however, I believe it to be an embolus and not a thrombosis, as there is practically no change in the arterial wall and the clot could easily be dislodged. In addition, the abdominal aorta shows extensive intimal athermatous changes with an area of intimal necrosis and thrombosis that might readily give rise to a vascular embolism.

Acute pancreatitis may arise on the basis of (1.) vascular or (2) duct change. The former is more common but chronic infection of the ducts may cause areas of necrosis in the pancreatic tissue with self digestion and fat necrosis following activation of the trypsin ferments. The gross anatomic and clinical pictures of the two conditions are identical but are based on separate mechanisms,

Dr. Prioleau: Was the peritoneum and kidney involved?

Dr. Lynch: There was no generalized peritonitis or free fluid but a few spots of fat necrosis in the mesentery.

Then a slide was shown and Dr. Lynch pointed out an ulcerated necrotic condition of the intima of the aorta with attached thrombus which in all probability was responsible for vascular occlusion in the pancreas.

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SOCIETY REPORTS

PEE DEE MEDICAL ASSOCIATION MEETING

The Pee Dee Medical Association held its annual meeting at the Hotel Florence, Florence, S. C., November 29, 7:00 P. M., with Dr. W. L. Byerly of Hartsville, President, presiding. A Dutch Dinner was enjoyed in the dining room of the hotel after which an interesting scientific program to which distinguished guests were invited to contribute was carried out.

Dr. Julian Ruffin, head of the Out Patient Department, Department of Internal Medicine, Duke University Medical School, who has made extensive studies in the field of Pellagra and is one of the pioneers in the use of Nicotinic Acid in the treatment of this disease spoke on Pellagra. He illustrated his talk with lantern slides.

Dr. Hines Roberts, head of the Department of Pediatrics, Emory University Medical School, is recognized throughout the country as an outstanding pediatrician. He has made special studies in the problem of otitis media and mastoiditis in children from the standpoint of the medical attendant. He spoke on The Problem of Otitis Media and Mastoiditis in General Practice.

Dr. James Ravenel, head of the Department of Urology, Medical College of South Carolina is an outstanding urologist in the state and a gifted speaker. His discourse was entitled Prostatic Calculi.

This was said to have been the most successful and enthusiastic meeting that had been held in recent years. A large number of physicians from the Pee Dee and other sections of the state were present.

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REPRINTS

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ATLANTA, GA.

NEWS ITEMS

The South Carolina Medical Association is entering upon its ninety-first year and the Journal upon its thirty-fifth year. On the front cover of this issue of the Journal the Seal of the Association reappears after some years of absence. This feature is in line with the policy of several state Journals and also the Journal of the British Medical Association. It is fitting that the members of the Association be given the opportunity at times to familiarize themselves with the Seal of the Association.

Dr. John J. Lindsay, 73, a practicing physician for more than 50 years in Spartanburg, died January 5, at a local hospital after a short illness.

He was a member of the Spartanburg County Medical Society and an Honorary Fellow of the State Medical Association. He was the son of the late Dr. J. O. Lindsay and Mrs. Amanda Drennan Lindsay and was a native of Due West. His father was for more than 50 years a well-known Presbyterian minister.

After graduation from Erskine College at Due West, Dr. Lindsay studied pharmacy and medicine at the Medical College of the University of Maryland.

Survivors are his wife, two sons and a daughter. Funeral services were held January 6 at 4 P. M.

The Journal of the South Carolina Medical Association is one of the few Journals in the United States that publishes a report of the Pathological Conferences at the State Medical College. These reports are widely read throughout the country and appreciated.

Readers of the Journal should read and reread the new section on Pharmacy and Therapeutics as it will appear from month to month.

Dr. P. M. Temples of Spartanburg is the Chairman of the Program Committee of the State Association and titles of volunteer papers should be sent to him as early as possible as the program will be limited as usual to about twenty-five or thirty papers.

The Journal has had recently some urgent requests for assistance in learning of young physicians who would be interested in locating in the smaller towns in South Carolina. Such physicians may write to the Journal for the names of these locations.

The Buncombe County Medical Society of Asheville is getting out a County Society Bulletin this month which is highly creditable and is being sent to a large number of physicians in South Carolina.

SPARTANBURG MEDICAL SOCIETY MEETING

Officers for the coming year and plans for the annual convention of the South Carolina Medical Association meeting to be held at Spartanburg, April 11, 12, 13, were made at the December meeting of the Spartanburg County Medical Society.

Dr. J. T. Carter was named President of the county society, succeeding Dr. P. M. Temples, Dr. Claude S. Finney was elected Vice President to succeed Dr. Herbert Smith. Dr. Leon Poole was reelected secretary and treasurer for the coming year.

Other officers elected included delegates to the state convention. Dr. John Fleming and Dr. D. Lesesne Smith, Jr., were new delegates named. Dr. Smith will succeed Dr. George Thompson, who will attend the convention as Vice President of the State Association. Dr. William Sheridan continues his term in the delegation.

Dr. D. C. Alford was elected as a new member of the Board of Censors, which also consists of Dr. R. E. Poole and Dr. R. G. Anderson.

THE JOURNAL

of the

South Carolina Medical Association

VOLUME XXXV

FEBRUARY, 1939

Number 2

My Experience with Transurethral Surgery of the Prostate Gland

By W. R. BARRON, M.D., COLUMBIA, S. C.

There has been a great deal written by urologists in different parts of the United States on this subject during the past five years. Some of the writings by a few of our most outstanding men would lead one without experience to believe that transurethral surgery is applicable only to the median lobe and median bar obstructions, where a very few grams of tissue are to be removed. On the other hand, there are many overenthusiastic urologists so bold as to state that all prostatic obstructions are amenable to transurethral surgery. North and South Carolina have, unfortunately, been overadvertised in this matter.

My earnest desire in this paper is to help us think more carefully and understandingly as to its uses and abuses. No surgeon has any right to subject a person to transurethral surgery who has not had some years of experience with the use of the pan-endoscope lens and a thorough understanding of the use of the electric cutting of tissue through these instruments.

If I were the master perineal surgeon that Dr. Young, of Baltimore, is, with a mortality rate of around one per cent, I would be willing to do nothing but perineal surgery of the prostate. We all recognize that Dr. Young is a past master of this method,

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and there have been very few men who have been so successful with it as he has. Dr. Young's radical operation for carcinoma of the prostate is the most complete for such a condition, but I do not know of but a few who can do this operation. He reports fifty per cent cures by this drastic method. Dr. Henry Bugby, of New York, says that he has adopted the transurethral surgery of the prostate because of its fine application in carcinoma.

Dr. Young says (Quoting from the Southern Medical Journal for December, 1937): "But most important of all is the frequent presence of carcinoma *simultaneously* with benign hyperplasia. Some twenty years ago, we showed conclusively that one case in five presenting symptoms of prostatic obstruction was carcinomatous. Only within the past two years, however, have we been aware of the great frequency of carcinoma where no obstruction to urination is present." Routine autopsies in some of the best large clinics have shown carcinoma in from fourteen to eighteen per cent of the cases.

I want to emphasize the fact of the frequency of carcinoma of the prostate. It is three times as common as that of any other internal organ. It has occurred in about eight per cent of my own series of resected cases, some diagnosed only after resection. In my own hands I have found resection the best way to give the maximum comfort and tenure

of life to the sufferers from carcinoma of the prostate, though I have great admiration and respect for Dr. Young's radical operation in the unmetastasized cases.

The younger the patient with carcinoma of the prostate, the more apt it is to metastasize. My youngest case, age 57, had general metastasis to the glands of the neck, the axilla, and groin in four months after resection. Another unresected case of about the same age had metastasis to the pelvic bones in nine months after my positive diagnosis. He was not obstructing and not resected.

Personally, I would not have radium used on myself if I had cancer of the prostate and, therefore, would not subject patients to it. I am very doubtful as to the value of deep X-ray therapy in prostatic cancer.

The criterion of suiting the operation to the patient, and not the patient to the operation, is the best practice in surgery of the prostate. To compromise or conform with a patient's desires, against one's ordered and experienced judgment, is a general invitation to trouble and an occasional one to disaster. We are usually dealing with feeble old men whose hearts and kidneys have been much damaged, and the laws for the stabilization of these patients—getting a proper P. S. P. curve of elimination, heart and blood pressure at their best, infection cleared up or sufficiently improved—are no less important in transurethral surgery than in suprapubic and perineal surgery. Many urologists today, through their written and verbal expressions, give the impression that we can hasten through these time-tried methods if we are good resectionists. One is sure to pay the price for such haste.

If a patient has a good kidney function, normal heart and blood pressure, and is a general good risk, then the preliminary stay in the hospital is not necessary. One of the most outstanding urologists of the mid-west lost fifty per cent of his first fifty resections. His mortality since has ranged from 3.3 per cent in the smaller size glands, up to 13.6 per cent mortality where the larger glands were removed transurethrally. His mortality rate rose somewhat porportionately with the increase in the amount of tissue he had to remove. He now advises that the patient stay on the table no

longer than forty-five minutes, and if sufficient tissue can not be removed in that time, to do a subsequent second operation at a later date. In short, he thinks thirty-five grams of tissue is a sufficient amount to be removed at one time.

Right here I want to emphasize that the large hypertrophies of the prostate are best done suprapubically or perineally, even if the two stage operations are necessary. Preliminary suprapubic drainage still has a very definite place in the preparation of the more serious cases of prostatic surgery, even if we wish to do transurethral surgery at the second stage. We have done this in several of our own cases with great satisfaction. Suprapubic tubes can be clamped and resection proceed just as though there were no suprapubic drainage.

DANGERS IN TRANSURETHRAL SURGERY

I shall classify these first, as hemorrhage, immediate or delayed; second, infection. Other dangers are cutting through the trigone with resulting peritonitis, cutting the anterior sphincter, incontinence, ureteral strictures, epididymitis. I saw one patient, resected by a master resectionist, who had a filliform closure of his vesical orifice following resection and had to be dilated gradually using filliform guides in the beginning. Of course, we know this can also happen in the suprapubic or the perineal operations as well, for I have seen it following both of these. We have never had a case of permanent incontinence, nor have we ever cut through the trigone or anterior sphincter muscle. Praise Allah!

The more modern devised transurethral hemorrhage bags have contributed much in the control of hemorrhage. Much has been written about the failure to remove sufficient tissue through the resectoscope, and the condemnation of this method because of this. I feel that, in most of the early work done by this method, this was a very common occurrence. I am sure it was in my own work, but as one becomes more proficient, he can fairly thoroughly remove most of the prostate down to the capsule. The portion hardest to remove is that which comes right up to the veru montanum and the anterior sphincter

muscle. We must say almost every case presents its own peculiar anatomical problem. Some are so very simple and easy; others hard.

One should become thoroughly familiar with the type of hypertrophy he is operating on by palpation and preliminary inspection through the McCarthy Cystoscope. X-ray done by competent men can give a fairly accurate estimate of the size of the prostate. The ordinary cystoscopic lens magnifies too much and is, therefore, misleading in the preliminary operative study. The non-electric cutting resectoscope used at the Mayo Clinic by Dr. Thompson and his associates, has much to commend in its use.

This field of surgery is very young and has advanced rapidly and yet has improvements to be perfected. My own series of cases is small compared to the larger clinics, but by painstaking effort we have made a helpful contribution to the sufferers with prostatic obstruction. Of the two hundred and twenty-five cases done by us in the past six years, we have lost only three, and only one of these in the past four years. Some of our end results in our early cases were not as good as we wished them to be, and we have had a few develop epididymitis and strictures. I frankly believe that if we had done all of these cases suprapubically, our mortality rate would have run from six to ten per cent.

My conviction, in the light of twenty-three years' experience in urology, is that not over fifteen per cent of prostatic obstructions are caused by the large type of prostates, and, therefore, eighty- five per cent can best be handled by transurethral resection. I have seen cases following suprapubic and perineal prostatectomies, done by some of the best urologists, that did not have such perfect end results. I am convinced that in the hands of those urologists who perfect transurethral surgery of the prostate, we have a method of great value to the sufferers from prostatic obstruction.

DISCUSSION

Dr. James J. Ravenel, Charleston:

The subject of transurethral resection has probably provoked more discussion and more disagreement than any other one thing in this country in some years. Some of us have steered a middle

course, while others have veered to the right or to the left, some accepting it absolutely while others are entirely rejecting it. Personally, I think it always pays to follow a middle course.

The small glands or the moderately large glands are probably best handled by resection, but I am still of the opinion that the large glands had better be subjected to the open operation. About three weeks ago I happened to have a patient with a tremendous gland, for which I advised the open operation. There has been so much general discussion of this procedure that the laity have learned about it, as well as the doctors; and pressure was brought upon me to do the resection operation. Sometimes we yield to pressure; and I did in this case, to my regret. I removed 22 grams of tissue from this patient and left far more tissue than I removed. About four days following the operation he developed severe hemorrhage and had to be carried back to the operating room and coagulated. About four days following that he had another hemorrhage, a very severe one. There were clots obstructing him, and it required a suprapubic operation to control it. Then I lost him from a pulmonary embolus.

The matter is purely one of surgical judgment, and it is that which makes the difference between the surgeon and the operator. We should resist this outside interference which is constantly facing us.

So far as carcinoma is concerned, resection is really ideal. If it does nothing else it eliminates that terrible permanent suprapubic drain, which you have all seen, and you know how horrible it is. If necessary, the operation can be repeated, though repeated operations of course increase the operative hazards. In carcinoma I have a sympathy for those old men, and I do not object to repeating it in those cases.

The mortality rate is a hard thing to get at. Statistics do not always tell the truth. The rate varies with the experience of the operator, so we can not come out and say the mortality rate is one per cent or fifteen per cent. It varies with the operator. The morbidity is admittedly far less with the resection, and I feel that resection is the operation of choice in approximately eighty-five per cent of the cases. But I do feel that we should insist upon our right to evaluate our own patients and suit the operation to the patient and not the patient to the operation. I feel that the high point of Dr. Barron's paper is just that—a plea that we exercise surgical judgment and give our patient the operation that suits him, and not suit the patient to the operation.

Dr. Barron has clearly and impartially analyzed transurethral resection.

Dr. Marion H. Wyman, Columbia:

We were born with a certain canal leading from the bladder to conduct urine to the exterior. For some reason in later years, in many

men, obstructive lesions develop in this canal. The obstruction is simply a mechanical barrier which interferes with the emptying of the urine from the bladder. The whole point in treatment is to restore the patency of the canal. In other words to canalize the patient's urethra. The method of curing a prostatic obstruction is so highly technical and mechanical that I do not believe the urologist will interest the general practitioner with this technical discussion. If I were fairly young chronologically as well as physiologically and I had an obstructing prostate, non-malignant, I would have this obstruction removed by a suprapubic prostatectomy. I feel that this operation cures the patient for the rest of his life, no matter how many years he may live. Not only is he not apt to have a recurrence of the obstruction, but a certain percentage of early, unrecognized malignancies are thus removed. If I were not in good shape physiologically and had some degenerative circulatory disease, or if my chronological age were advanced say above seventy years, I would probably debate the advisability of having a resection to relieve my prostatic obstruction. Whether the obstruction is removed transurethrally by a resection or by a radical prostatectomy depends entirely upon the physiological and chronological age of the patient plus the inherent skill of the operator.

I do not believe that the mortality rate between these two operations would justify a choice between them. I believe that the morbidity percentage is less in the suprapubic prostatectomies than in any other treatment for removing obstructing prostates. You therefore realize unless there is some contraindication on account of the physiological or chronological age of a given patient, I vote for a suprapubic prostatectomy for a simple, benign, hypertrophied prostate.

Dr. L. P. Thackston, Orangeburg:

It is a great pleasure to hear a man of Dr. Barron's intelligence and integrity discuss a subject which is so maligned. It is a terrible calamity when any procedure is brought out and then commercialized, and there is no question that this has happened with transurethral removal of the prostate. We have had the greatest ballyhoo on this subject that I have ever seen in surgery, and, unfortunately, it has put a great many people in their graves.

I had the great pleasure of spending several weeks in Dr. Alcock's clinic last year, and I was tremendously impressed with his honesty and his ability. Dr. Alcock at that time had done approximately

3700 resections, as I recall. He does most of his prostatectomies transurethrally but still does some by open method. There is no operation that requires more skill or more study, and unfortunately it has had less than resection, the ballyhoo concerning the minor nature of the operation being probably the cause. Unfortunately, some men have tried to spread the impression that all criticism of transurethral resection is due to ulterior motives. That the men who have criticized the operation cannot do it properly. This is not true. A competent urologist should be able to do both transurethral and open surgery of the prostate, and he should do the operation which in his opinion is the best for the individual case at hand. The fact that a patient can urinate is not proof that he is cured. The residual urine should be eliminated. During the height of the transurethral craze I actually had an old man come in my office whom it took two people to hold up and who said he wanted a resection that afternoon and wanted to go home the second day following, and who insinuated that I was not competent when I told him this was not possible. This case illustrates the wide-spread misinformation about this very important subject. It is my opinion that only after careful study can any one decide what procedure is best. In so far as cancer is concerned, I have never seen any procedure by which you can give more relief than by resection. You may have to do several to keep the patient comfortable, if he lives long enough. But I do not believe we see enough of these cases early enough to advise radical removal through the perineum.

Dr. Barron, closing the discussion:

I appreciate this discussion by these gentlemen, and I might say that I did not confer with any of them ahead of time, except to send Dr. Ravenel a copy of my paper, as I had asked him to open the discussion.

My experience with all subsequent resections that I have ever done is that each one becomes easier. There is less bleeding, and each one is easier to do. I have done as many as three resections in a case that I begged to let me do a suprapubic operation in the beginning.

As to the malignancies, I agree with Bugby, of New York. I have not had such a great number, however.

I did not tell you about my most favorable cases. One of them for whom I did a resection for carcinoma made a crop on his farm a year afterwards at 81 years of age. I gave you my bad results, but I have had good ones. Thank you.

Urethral Stricture in the Female

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The clinical picture of urethral stricture, dysuria, chronic urethral discharge, passage of small urinary stream, and later, complete retention, which, if not properly treated, may be followed by nitrogenous retention, unconsciousness, by urosepsis, urinary extravasation and even death, is a relatively common disorder in the male charity clinics and hospital wards. However, as has relatively recently been recognized by the profession, the female urethra may be the site of fibrous constriction with symptoms and pathological changes as serious and as far reaching as those commonly found in the male.

The urethra of the female is analgous to the membranous urethra in the male. Stricture of this portion of the urethra in the male, due to the resistance of the squamous epithelium to infection, and the absence of glandular structure, is rare. This possibly accounts for the lower incidences of the disorder in woman.

ETIOLOGICAL

As in the male, reparative fibrosis of the delicately lined tract following the inroads of gonorrhea stands out as the chief etiological factor. However, the healed urethral or vaginal chancre, chanchroidal infection, Lymphopathia Venereum, or lupus or luetic ulceration are likewise causative agents. Next to infection, trauma is the most common cause. The trauma of childbirth, with or without obstetrical instruments, the application of caustic agents, the fulguration or cauterization of a caruncle, the passage of stones or foreign bodies, urethral instrumentation, operations for urethra-vaginal fistula, cystocele, or too vigorous use of implements of masturbation may cause sufficient urethral injury to result in cicatrical contraction. Post radiation fibrosis. congenital narrowing, urethral and meatal

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tumors, senile atrophy or prolapse, although less common, are recognizable causes. In a small percentage of cases no etiological factor is discernable. Hunner believes focal infection is an important etiological agent; how, we have been unable to determine.

PATHOLOGY

The lesion may involve the entire canal, or be situated at any portion, involvement of the meatus being perhaps the most common. The process begins at the area of injury or inflammation of a large caliber stricture which subsequently contracts to form a firm stricture. Or the process may develop from a periglandular inflammation and fibrosis in the region of urethral glands, the site of long standing chronic infection. Due to difficulty in emptying the bladder, in advanced cases, there may be chronic retention with hypertrophy of the detrusor muscle, cellule and trabeculation of the bladder, and later hydronephrosis and hydro-ureter. All of which predisposes to infection.

SYMPTOMS

A wide variety of symptoms are attributed to the disorder: Dull aching referred to the urethra, bladder sacral or inguinal regions, and soreness on voiding, burning or difficult urination, nocturia, frequency, urgency, increased voiding time, passage of small stream, irregular dribbling, passage of blood, enuresis, urethral soreness and tenderness, suprapubic pain, bearing down sensations, retention and dysparunia. The triad of frequency, pain, and burning on urination are the most common. However, at times there may be no symptom at all. Urinalysis may be negative or show sterile urine with an occasional pus or blood cell. Retention of urine for long periods of time is so common in multiparous women that mild urinary disorder is considered quite natural, and medical aid may not be sought until symptoms of cystitis develop.

DIAGNOSIS

The presence of urethral stricture is established by a thorough history, careful inspection of the meatus and palpation of the course of the urethra, intelligent use of Bougies and Endoscopic inspection. Size 26 on the French scale has been selected as the lower limit of normal and a narrowing of the urethra at any part below this size is considered pathological. Practically, however, we have found few women in whom a sound larger than a 22 could be passed without discomfort on first examination. Symptoms, instrumentation, clinical course, and in a few cases, endoscopic studies, did not lead us to believe stricture existed. Most urologists rely on the "hang" of an olive tip bougie as pathognomic of the disorder. X-ray examination of the urethra following injection of radio-opaque media has not proven satisfactory. Undoubtedly, the condition is often treated effectively without being recognized, the constriction being dilated by the more or less hard rubber catheter in diagnosis and treatment of a supposed cystitis. It is frequently noted that women are relieved of urological complaints following cystocopy, although no pathology was demonstrated by bladder inspection, uretheral catheter, palpation, or X-ray. Possibly there is a psychic element to be considered, but is it not logical to assume that an unrecognized constriction might have been dilated? Likewise, instrumentation for dilation of a supposed stricture may destroy papillary growths, thereby relieving symptoms simulating those of stricture, in actuality the result of papillary urethritis or caruncle thought to be inconsequential. Many cases of supposed urethral stricture may in reality be urethral strictures, due to autonomic innervations. Urethral strictures are to be differentiated from calculi, foreign bodies, or tumors in the canal, or about the internal sphincter, narrowing of the urethra from pressure upon, or constriction about, the urethra, as in cases of peri-or sub-urethral abscess, tumors of the uterus or ovaries, or post-radiation vaginal fibrosis. Cord bladder may also offer a source of confusion. Urethral spasm must not be lost sight of. Only last month we were asked to see a colored multipara in the obstetrical clinic because of the inability of the nurse to catheterize her. The girl had no symptoms of urological disorder; other than moderate frequency and nocturia so commonly seen in pregnant women. A second attempt to catheterize her with a No. 14 F catheter was unsuccessful, a Le Fort filiform was passed after extensive manipulation, but follow sounds up to No. 22 were passed with no difficulty. There was no urethral pathology in this case. The girl was apprehensive and was contracting her perineal muscles.

TREATMENT

Treatment depends upon the location and type of stricture. Meatal constrictions may be treated surgically, internal urethrotomy is inadvisable, and gradual dilation under adequate local anesthesia preferable. As in the male, the patient must be under observation throughout life. The formation of a urethrovaginal fistula, especially in strictures due to malignancy, must be guarded against.

CASE REPORTS

During the past twelve months six cases of urethral stricture in the female have been encountered in the urological clinic: three apparently due to previous gonorrhea urethritis, one the result of radiation, two due to menopause fibrosis. We have selected two representative cases to report.

Case I—(File No. 76656).

A. S. Colored female, age 28. Occupation—maid.

Admitted to Colored Department, Spartanburg General Hospital, January 24, 1937, in comatose state.

Past history was inconsequential except for history of gonorrhea three years before with subsequent slight supra-pubic tenderness, and difficult urination of intermittent character. Four months before, she had sought medical aid for distressing headache. Wassermann and Kahn blood examination found to be four plus. Subsequent anti-luetic treatment was given without relief of headache. Three months prior to admission, patient was stricken with sudden epigastric pain, associated with nausea and vomiting. The above symptoms were recurrent and apparently quite severe. Examina-

tion revealed tenderness in epigastric and suprapubic regions, and over the gall bladder. Temperature ranged from 102 degrees to 104 degrees. The patient was not hospitalized, and was treated symptomically for supposed acute cholecystitis. She recovered sufficiently to return to work and aside from slight lethargy and persistent headache, was in fair degree of health until two days prior to admission. On the morning of this day she ran in order not to be late for work. Her headache was increased, and two hours later she was stricken with sudden epigastric pain, nausea, and vomiting, passed into a stuporous state which was followed by rapidly deepening coma.

The clinic course and findings were similar to those of the previous attack-temperature 102 degrees to 104 degrees, tenderness over epigastric, hepatic, and supra-pubic areas, but in addition, patient was extremely tender over both posterior kidney regions and along the course of the right ureter. A supra-pubic mass could be outlined by percussion. On admission to the hospital, the nurse found it impossible to obtain the routine catheterized specimen of urine, due to impossible urethral obstruction. Examination revealed a pin point meatus from which oozed a few drops of urine, and fibrosis of entire urethral floor. Laboratory studies revealed urine to contain three plus albumen, with occasional blood cell, and numerous pus cells, with occasional clumps. Hemoglobin 60 per cent (Hayden), leukocytes 20,000 with one young and eighty-five segmented polymorphonuclears, lymphocytes fourteen. Blood chemical studies showed 138 mg. sugar, 120 mg. non-protein nitrogen, 112 mg. of area nitrogen and 10 mg. creative.

A No. 4 F ureteral catheter was inserted with some difficulty and the bladder decompressed slowly. The following day the patient could be aroused from coma, and in 48 hours was completely conscious. The urethra was gradually dilated with urethral catheters, and later with sounds. Blood chemical studies showed gradual decrease in nitrogenous retention. After leaving the hospital, urethral dilation was continued with disappearance of headache and improvement in her general condition. She was lost track of after six months.

Discussion—This case aptly illustrates the systemic effect of long standing urinary retention with clinical course simulating that of true chronic uremia. We regret that we are unable to report cystoscopic and pyelographic studies in this case, but we conjecture that one would find trabeculation and cellules in the increased bladder capacity, bilateral hydroureter and hydronephrosis. Does this not remind one of a case of acute retention from prostatic hypertrophy in the male-nitrogenous retention; unconsciousness, "uremic odor" to the breath; tenderness in epigastric region; over both posterior kidney regions and over distended bladder, with amelioration of symptonis; regain of consciousness; and return of blood chemistry to normal on catheter drainage?

Case II (File No. 70,468).

F. D. White female, age 21; occupation—housewife.

Patient was referred to the clinic of the Spartanburg General Hospital, August 13, 1937, with the recommendation of therapeutic abortion, in view of eclamptic toxemia, with previous pregnancy and the presence of fourplus albuminuria. The patient stated she had had usual diseases of childhood, had typhus fever in March, 1937, and gave a history of profuse vaginal discharge since marriage, three years previously, and had noted progressive diminution in the size of urinary stream, marked dysuria, increased voiding time, nocturia 3-4 for past 18 months, and marked dysparunia for past year. Also frontal headache, nausea, and fullness after meals. Physical examination revealed a well developed and nourished female with B. P. 110/60 and the pelvic findings of pregnancy of the second month, with moderate rectocele and slight cystocele. urethral meatus was found to be pin point, and the urethra palpated through the vagina hard fibrous cord, the cervix eroded, and hypertropied exuding a thick purulent discharge Urinalysis showed 4 plus albumen, occasional blood cells, 6-8 pus cells per high power field with clumps. Repeated cervical smears were negative. However, no culture for the gonococcus was made. No trichomonas were demonstrated in vaginal washings; urine culture showed staphylococus. After one urethral dilation,

the woman experienced improvement; nocturia and dysuria disappeared; voiding time was decreased, and headache became less. Albumen disappeared from the urine after one month, but has reappeared from time to time, in spite of repeated dilation, only to disappear on bed rest. She was admitted to the hospital on two occasions during her pregnancy for consultation, physical check-up, P. S. P. and blood chemistry, which, when studied, were found to be within normal limits. Her pregnancy and delivery were uneventful, and when last seen, April 19, 1938, she seemed to be in excellent health and had no urinary complaint.

Other Cases:

S. G. H.—No. 65923—L. T.

S. G. H.—No. 12137—L. M.

S. G. H.—No. 25681—O. R.

S. G. H.—No. 79100—V. E.

S. G. H. No. 3291-H. B. C.

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Practical Uses of the Levin Tube

By James A. Bradley, M.D., Florence, S. C.

The Levin tube, which we have come through experience to have great respect for as an instrumental aid in the cure and comfort of the extremely ill, as well as for certain diagnostic procedures, was first described by Levin in 1921 (1). It is a urethral catheter type of tube, forty-five inches or more in length, with markings eighteen, twenty-two, twenty-six, and thirty inches from the tip. It is obtainable in sizes twelve, fourteen, sixteen, and eighteen French.

This tube is differentiated from the previously popular Einhorn, Rehfuss, Twiss, and Jutte tubes in that it is a singular long tube, with a smooth tip, the distal end of which has smooth, oval, fair-sized openings to allow drainage over several inches distance. First of the important differentiations is the absence of a metal bucket attachment at the distal end, which is found in the Rehfuss and some other tubes.

Its differentiation from the old, large size

Faucher stomach tube is hardly worth while mentioning in these times, for the latter tube

has become somewhat a relic of early twentieth century medicine.

This differentiation from other type tubes causes me to emphasize that the size and quality of the Levin tube is such that it can be passed into the stomach or duodenum by the nasal route. The advantages of the Levin tube and the nasal route are many, which may be listed as follows:

- 1. The patient is unable to bite the tube, thus giving the physician complete control of the process of inserting.
- 2. There is an absence of tickling of the soft palate with a decrease in the amount of choking sensation.
- 3. The walls of the tube are sufficiently strong to withstand suction without collapse, and to permit its passage without a stylet, thus allowing its use in an unconscious or anesthetised patient.
- 4. The smooth tip will pass easily into the duodenum, and the tube being visible flouroscopically makes it the tube of choice for draining the gall bladder, especially when one considers the relative comfort of the patient throughout the time required for this procedure.

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- 5. The openings are less likely to become blocked by food or mucus on account of their large size, velvet eyes, and their distribution over several inches distance.
- 6. The ease with which it can be withdrawn due to the lack of a metal tip is an added comfort to the patient.

The DIAGNOSTIC Uses of the Levin tube are chiefly concerned with aspiration of gastric or duodenal contents for analysis.

The Therapeutic SURGICAL Uses of the Levin tube are several. In the McLeod Infirmary the most important uses made of this tube in surgery are in cases of post-operative ileus and gastric dilatation.

In surgery this tube may be used for other purposes, as the removal of gastric contents after an operation in order to relieve pronounced post-operative nausea and vomiting. During gastroenterostomy it may be passed into the duodenum through the pylorus at the gastroenterostomy opening, in order to introduce fluids directly and immediately into the duodenum(2). In other upper abdominal operative procedures, where fluid is desired in the duodenum during or after operation, the tube can be passed by the nasal route during the operation and the tip guided into the duodenum through the pylorus(2). Recently it has been recommended that in cases of esophageal stricture from swallowing lye, the Levin tube with a wire stylet may be used for gradual dilatation of the stricture (2).

Therapeutic MEDICAL Use of the Levin tube in the DISEASES of the DIGESTIVE SYSTEM finds its most frequent use in the drainage of the bile tract. Some of the other uses in the digestive tract are in the instillation of medical remedies in the treatment of gastric or duodenal ulcer or duodenitis; the instillation of medicines used in the eradication of Strongyloides infestation; the instillation of cultures of bacteria to combat intestinal toxemia, and in the duodenal feeding in the treatment of ulcer, doudenal fistula, etc. Levin suggests the use of the tube for the instillation of oxygen into the duodenum, when indicated(2).

The Medical Use of the tube in LUNG DIS-EASES may be best illustrated by the following case: CASE JBG:

This patient, age sixty-five, was first examined on February 21, 1936, and found to be in an extremely dehydrated condition with a temperature of 102 degrees F, acidotic breath, respiration thirty-five, obstipation and pain in left lower chest. She was diagnosed as having broncho-pneumonia and was admitted to the McLeod Infirmary on the same date. On February 22, 1936, at four, seven, and ten A. M. the nurses' record showed that the patient was nauseated and vomiting and unable to retain anything by mouth. At ten-thirty A. M. the Levin tube was inserted by the nasal route and the stomach washed out until water returned clear. After the Levin tube was inserted, it was left in place until the death of the patient at nine A. M. February 25th. During all this period of time, no further notes were found on the chart relative to the patient having either nausea or vomiting.

This case is mentioned in order to suggest the more frequent use of the Levin tube in patients critically ill with pneumonia in order to have more perfect control of the gastric intake and output. All patients with pneumonia of necessity swallow large amounts of infected sputum which results in a decrease in the ability of the stomach and intestines to retain and digest properly the foods given. In this case, the tube serves several distinct purposes. First, its retention in the stomach allows for frequent gastric lavage in order to keep the stomach in as clean and healthy condition as possible. Second, in a dehydrated patient as in this case, water intake is important and with the Levin tube in place, it is possible for water to be given at frequent intervals, even while the patient is asleep. Third, nourishment in the desired amount can be given. Fourth, any medication desired can be given without disturbing the patient. These purposes are of particular importance when the patient is continually nauseated, at times retching or vomiting, and unable to retain water, nourishment or medicine by mouth.

The summation of all these is a more comfortable patient throughout a critical illness, thus giving the patient a better chance of recovery.

The Medical Use of the Levin tube in DIS-

EASES of the HEART may be best illustrated by the following case:

In 1932, I had in the wards of the Charity Hospital in New Orleans, where this tube is widely used for many puropses, an extremely severe case of coronary thrombosis. This case presented as a serious complication, severe retching and hiccoughs, after a state of unconsciousness had intervened. We immediately passed a Levin tube through the nose to maintain constant drainage of gastric contents. This procedure relieved the patient of retching and hiccoughs as long as the tube was left in place. Necessity required its use for a period of about ten days until patient returned to consciousness, and several weeks later she was discharged from the hospital. When last heard of several years later, she was still in relatively good health. We have repeatedly used this tube in similar cases. Another example is CASE EVT, age sixty-two, admitted to the McLeod Infirmary May 19, 1935, with a diagnosis of severe coronary thrombosis. Her condition on admission was such that she was immediately put in an oxygen tent. Due to the nausea and vomiting, the latter containing some blood, the Levin tube was inserted in the stomach by the nasal route and left in place until shortly before her discharge two weeks later. After the tube was inserted, the stomach was cleansed thoroughly and kept in a constantly clean condition, and while in place the tube was used for the administration of medicines and liquid foods as desired. After two weeks she was discharged from the hospital and kept in bed for several months until a second attack of coronary thrombosis occurred on August 8, 1935. Her condition was such that she lost consciousness several times within one hour after her re-admission to the McLeod Infirmary. The Levin tube was again made use of, after normal breathing was established, and continued until her discharge from the hospital four days later for another four months stay in bed at home. Two years later, in August, 1937, this patient withstood an acute attack of malaria, complicated by broncho-pneumonia and is now enjoying relatively good health.

The Medical Uses of the Levin tube in SYS-TEMIC DISEASES may be illustrated by patient EAB, age sixty-eight. She was ad-

mitted to the McLeod Infirmary on September 18, 1935, with a diagnosis of diabetes, associated with marked hypertension, severe chronic Pyelo-nephritis and a past history of recurrent gall bladder attacks. On admission, her blood sugar was 360 mgs. per hundred cc and her N. P. N. was 50 mgs. On September 21st, the blood sugar was under control but there was a rise in the blood N. P. N. to 100 mgs. and on September 24th, this was further elevated to 150 mgs. On admission a Levin tube was placed into the stomach by the nasal route and was kept there until October 5th, two days prior to her discharge. During the first days of her illness the stomach was frequently lavaged with 5 per cent Sodium Bicarbonate solution and large quantities of bile which had regurgitated into the stomach were thus removed. On September 24th, when the blood N. P. N. was 150 mgs., a specimen of undiluted bile solution syphoned from the stomach showed a N. P. N. content of 60 mgs. per hundred cc. This finding might possibly indicate that the liver was attempting to take over a part of the excretory function of the diseased kidneys and would seem to suggest the advisability of the constant use of the Levin tube in all cases of uremia. The patient was discharged from the hospital on October 7, 1935, with a N. P. N. of 50 mgs. and enjoyed relatively good health for some months.

CONCLUSION

Briefly, in conclusion, in addition to the many recognized uses of the Levin tube listed herein, we would like to suggest its more frequent use in practically all critical illnesses wherein the gastric activity is below par; and further, to draw particular attention to its use in broncho-pneumonia, coronary thrombosis, and severe systemic illnesses.

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DISCUSSION

Dr. John M. Brewer, Kershaw:

The few remarks that I have to make in regard to Dr. Bradley's paper will be more or less from the surgical standpoint, since he has covered the medical end so well.

The Levin tube is certainly a very valuable adjunct to surgery, particularly in those cases of septic conditions where there is a generalized peritonitis with general distension of the intestines. I think this one thing relieves the patient more than anything else we can do for him, not only using it pre-operatively but post-operatively, for five or six days afterward. Another point that Dr. Bradley brought out is in the relief of regurgitation of bile from the small intestines back into the stomach. It is a very, very valuable aid and certainly stops many of those cases of post-operative vomiting in which we fear anything may develop.

Gynecologic Endocrinology

By Jack D. Parker, M. D., Greenville, S. C.

The subject matter of endocrinology has become so profuse that a paper of considerable length must of necessity be limited to some specific phase of the subject. It is my intention to refresh our minds about the positive elemental facts concerning the hormones, or endocrines, relative to Gynecology, and their usage in some of the more common conditions that present themselves for treatment in this particular field. It is true that many of us have felt that this subject presented such a hopeless muddle of theories that we have not applied our thoughts as ardently as we should toward classifying the patients according to the deficiency, or toward evaluation of the various commercial products, or as to the proper time and length of their administration.

Without a detailed discussion of the normal physiology of menstruation, we know that just after menstruation quite a few follicles begin to mature, but that as a rule only one during each cycle fully matures and ovulates at about the middle of the intermenstrual period. These growing follicles produce the so-called follicle or estrogenic hormone, also called estrin, estrone, folliculin, theelin, etc., which is demonstrable in the blood and urine. This substance is also found in the urine of pregnancy, in the placenta, amniotic fluid, and is likened chemically to the sterol group.

After the rupture of the follicle and the formation of the corpus luteum some estrin is still produced by this body, but the primary hormone of the corpus luteum is progesterone,

Read before the Greenville County Medical Society, Greenville, S. C., 1938.

and it has not been found to be produced elsewhere in the body.

As to the effect of these two, we might say, purely ovarian hormones, estrin is the growth hormone with a very specific effect upon the genital mucosa. It is responsible for the endometrial growth and hyperemia, increasing from the end of one period until the next. The other hormone, progesterone, is responsible for the secretory phase of the endometrium at the time of the period. The estrin hormone is available commercially as Progynon, Theelin, Emmenin, Amniotin, Thelestrin, etc. The progesterone hormone as Lipo-lutin or Progestin, Cor-lutin, Proluton, etc.

The next hormones to be considered are the two of the anterior lobe of the pituitary that are applicable to this discussion. This anterior lobe makes possible ovarian function, just as it also dominates the thyroid and adrenal cortex. One of these sex hormones is the follicle ripening principle, which is responsible for the maturing of the ovarian follicles. The other of the sex hormones is the luteinizing principle which converts the granulosal cells just as the first mentioned is responsible for the production of estrin. These two sex hormones of the ant. pituitary have not been isolated, but commercial preparations containing both are available as Gynantrin, Antuitrin, and Prephysin.

The third pair of sex principles is obtained from the urine of pregnant women, and will be referred to as prolan. This pair of hormones, more properly and simply, is often called the antuitary pituitary-like gonadotropic principles of pregnancy urine. These substances have not been prepared in separate form, but the follicle ripening principle is designated as prolan A and the luteinizing principle as prolan B. Commercial preparations containing both are offered as Antuitrin-S, Antophysin and Follitein.

If one understands the significances of these three pairs of hormones, or substances, and the reliability of the various commercial preparations offered, there remains one other most important essential to the honest treatment of these difficult endocrine problems. That essential is to understand something of the nature of the endocrine disturbance involved in these functional disorders, so that we may know what we hope our treatment is to accomplish.

FUNCTIONAL BLEEDING

The ovarian dysfunction in these cases is that of a failure of ovulation. With a failure of ovulation there is an abnormal persistence of estrin stimulation and an absence of the progesterone effect, since no corpora lutea are formed. Obviously the use of progesterone, therefore, is logical and quite successful. If the bleeding is of the menorrhagic type, the progesterone preparation is given as the bleeding commences and is used in a dosage of one rat unit daily for from 1 to 6 doses, depending upon the response. If the bleeding is of the metrorrhagic type, the injections are likewise given daily as soon as any bleeding commences. In some of these cases with a failure of response to progesterone therapy, the ant. pituitary-like gonadotropic substance such as antuitrin S, will give the desired result. Still further, in persistent cases, a combination of the two should be used.

STERILITY

Unquestionably many cases of sterility are explainable from an endocrine basis. The most favorable response to treatment is found in the group of hypothyroids. It is generally accepted by embryologists that the so-called defective or below par germ plasm is responsible for many cases of sterility and habitual abortions. It is also prevalently believed that thyroid therapy, although the exact action is not yet determined, has somewhat of a specific

favorable effect on the germ plasm. Since thyroid therapy is our most valuable aid in these cases, it is given not only to cases with a low B. M. R., but also to those with normal metabolic rates, but not in as large dosages.

Another type of sterility exists in individuals, usually in very young women and in those approaching middle life, with an anovulatory cycle. There may be the regular almost normal menstrual flow, without ovulation having taken place. Evidence is that ovulation is a result of a certain quantitative balance between the two pituitary sex hormones, and, since these preparations are capable of producing ovulation in animals, their usage is advised. It should be given just before the mid-intermenstrual period, and followed with the progesterone hormone until the period begins. Progesterone, or the corpus luteum hormone, is valuable in the preparation of the endomentrium for the reception of the fertilized ovum, as well as inhibiting uterine contractions, likewise favorable.

PRIMARY DYSMENORRHOEA

Excluding those cases of general systemic or organic etiology, as well as those of psychogenic origin, a large number of these dysmenorrhoeics are greatly aided by endocrine therapy. agree that it is here a qualitative imbalance between estrin and progestine. Some authorities feel that addition of the estrogenic hormone is the treatment of choice, whereas others, notably Novak and Reynolds, reason that progestine is the logical hormone. The estrogenic hormone is responsible for the normal rhythmic activity of the uterine musculature, whereas, progestine is the inhibitant of this contractility. The luteinizing or prolan-B principle of pregnancy urine has a similar inhibiting effect on the uterine musculature. The usual plan of therapy is to give one rabbit unit or progesterone or 200 units of one of the pregnancy urine preparations daily several days before the period begins and continuing until the flow is established. These preparations can be used alternately or in conjunction in severe cases. Lackner and his associates in Chicago used the estrogenic hormones in the cases with small hypo-plastic uteri, and in the large, well developed uteri used progesterone. They relieved

completely 80 per cent of their cases of primary dysmenorrhoea.

MENOPAUSAL SYMPTOMS

It is rather generally recognized that a loss of the estrogenic hormone is responsible for the variety of vaso-motor symptoms of the climacteric, and similarly recognized that the administration of this hormone such as theelin, amniotin, or progynon B, will relieve or greatly ameliorate these unpleasant symptoms. In mild cases, oral administration will suffice at times. Regular, persistent administration of large doses over a long period is seldom necessary, and is certainly not without possible danger. Loeb, after a thorough study of the subject, has concluded that estrogenic substances have been found to be carcinogenic in those tissues which are normally under the physiologic control of estrin. This applies especially to the uterus and the breast, and in the latter a surprising proportion of cancer has developed following long continued estrin injection. So that it is also true that a postmenopausal endometrium subjected to persistent estrogenic stimulation may be predisposed to adeno-carcinoma. It behooves us to keep these facts in mind in some severe menopausal cases, particularly those that are having no menstrual flow and whose symptoms are so severe without regular injections.

HABITUAL ABORTIONS

It has already been mentioned as to the importance of the part of the corpus luteum in preparation of the endomentrium for nidation, and also as to the effect of its hormone on lessening or inhibiting uterine contractions. The apparent specific effect of thyroid therapy on the germ plasm has also been mentioned. Considering these facts, as soon as pregnancy is established it is advisable in these cases of habitual abortion to commence one rabbit unit of progesterone three times weekly, along with thyroid extract, even though the patient has a normal metabolic rate,

AMENORRHOEA

When an endocrine abnormality is responsible for this, or its related condition, oligomenorrhoea, the most frequent involvement is

first, the anterior pituitary and para-pituitary areas of the mid-brain; second, the thyroid; and third, the gonads. While it is not always possible to definitely place the fault in a single class, if we familiarize ourselves with the characteristics of each, many can be classified. In the large centers this is made easier by blood and urine hormone studies, which are relatively simple and easy to obtain.

The first group of cases, for example, would be represented by Frohlich syndromes (adipogenital dystrophy). The amenorrhoea and other sex symptoms in this group are due to a deficiency of the pituitary sex hormones, while the obesity is due to an associated involvement of the hypothalamic and other centers in the vicinity of the anterior lobe. The preparations of the anterior pituitary sex hormones, along with the inevitable thyroid therapy, are used in this group. Just what the thyroid mechanism is no one seems to know, but better results are obtained from its use than any of the other endocrine preparations.

In the hypogonadal cases, what appears to be a simple demand for increased estrogenic hormone, is really an hypo-ovarian function due to lack of proper pituitary stimulation to follicle formation and ovulation.

Ovarian stimulation by large doses of estrogenic hormone, although it may cause bleeding, is purely substitutional. The bleeding is due to retrogressive changes in an endometrium that has been artificially built up, and is really a false menstruation. No ovulation occurs, there is no impetus to ovarian mechanism, and no recurrence of the bleeding, as in a normal menstrual cycle, might be expected. About the only value of this form of bleeding is from a purely psychic viewpoint, hoping that pituitary stimulation will produce a normal cycle before the value of the psychic therapy subsides. So that use of pituitary sex hormones and thyroid extract are our best bets in these cases. If this proves unsuccessful, and the condition is causing some serious problem, it may be advisable to resort to light radiation of the pituitary or to the ovaries or both.

GONORRHOEAL VULVOVAGINITIS OF CHILDREN

We are all familiar with the excellent re-

sults obtained by the use of estrogenic hormone therapy in these cases, and it will not be discussed except to mention that what occurs is a marked proliferation of the vaginal mucosa, thus simulating the adult type. This change renders the child's mucosa much more resistant to gonococci, as is the adult mucosa. No other unfavorable sex changes have been noted except some slight occasional breast changes that subside when the treatment is finished.

SENILE VAGINITIS

Irritation, a troublesome vaginal discharge, and pruritus in women following the menopause, whether surgical or natural, is often due to infection of an atrophic mucous membrane. It has been found that administration of the estrogenic hormone in dosages of 500 international units thrice weekly will relieve the situation by building up the atrophic mucosa. The duration of the treatment averages about six weeks.

There are many other interesting endocrine subjects closely related to this type discussion, but at present the studies have not been completed and they are so theoretical as not to be of any practical value, as I hope that the subjects we have discussed will be.

In concluding, I quote from one of Novak's articles in the Journal of Obstetrics and Gynecology: "This new application of endocrinology to the problems of human disease is but another of the many developments which justify the early hopes and enthusiasm of those who were farsighted enough to interest themselves in the subject in its earlier days, when the ductless gland enthusiast, however honest and earnest, was looked upon with condescension, if not derision, because of the motley crew of pseudoscientific ragamuffins and commercialists who crowded under the same banner. Within the short period of a quarter of a century, the tone of endocrinology has been immeasurably elevated, in spite of rapid advances which would almost excuse immoderate enthusiasm. No more brilliant chapter has been added to the scroll of medical science than that contributed by endocrinologists, and yet the wisest and most conservative among them all agree that only the surface has as yet been scratched. and that what has already been accomplished merely foreshadows even richer possibilities in the future."

SOCIETY REPORTS

COASTAL MEDICAL SOCIETY MEETING

The Coastal Medical Society met January 19, Walterboro, S. C., and was called to order by Dr. L. M. Stokes. Minutes of the previous meeting were read and approved.

Since it was now time for election of officers, Dr. Stokes appointed a nominating committee composed of Drs. Guyton, Bennett and Preacher. The committee is to meet and make the nominations at the next meeting.

Dr. Stokes acknowledged the presence of Dr. Howard H. Gordon, orthopedic surgeon of New York City and extended to him the privileges of the floor. Dr. Gordon stated that

this was his first trip South and complimented very highly this section of the country.

Dr. Wm. H. Prioleau of Charleston gave a very scientific and practical talk on Burns which was thoroughly discussed by Dr. Gordon of New York, Dr. Brown and Dr. Bennett.

Dr. C. L. Guyton of Walterboro read a very interesting paper on Brills disease, covering every aspect of the disease, which was discussed at length and enjoyed by all.

St. George was selected as the next meeting place. The meeting adjourned followed by dinner at the Isaac Hayne Hotel.

A. R. Johnston, M. D., Secretary

THE JOURNAL

OF THE

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SOUTH CAROLINA BIRTH REGISTRATION CAM-PAIGN MARCH 5-11 INCLUSIVE

The South Carolina Medical Association when it was organized February 14, 1848, took immediate steps to introduce a Bill in the Legislature providing for the registration of births, deaths, and marriages. From that day to this the Association has been keenly interested in these problems and never fails to support all worthy efforts looking toward a more satisfactory registration record.

It is well known that incomplete birth registration raises our infant and maternal death rates. Since these rates are computed on the basis of the number of live births reported, they are, as at present published, unjustifiably high which gives the state unfavorable publicity in matters of public health.

Thanks to the activities of the various divisions of the State Board of Health and the general interest on the part of the profession in South Carolina the maternal and infant mortality rate is falling rapidly but even yet much remains to be done to bring the rate in line with many other states.

We be-speak the cooperation of the profession in the campaign soon to be under way. A special agent has been sent from the United States Bureau of the Census to assist in organizing county committees.

There has never been a time in the history of our state in which the birth certificate was so important for many obvious reasons.

THE PROGRAM OF STATE MEDICAL ASSOCIATION IN SPARTANBURG, APRIL 11, 12, 13

The appeal through the Journal for titles of papers to be read at the annual meeting is producing good results but there is still room for more places on the volunteer part of the program. Titles may be sent to Dr. P. M. Temples, Chairman of the Program Committee, Spartanburg, S. C., or to the State Secretary.

SOUTH CAROLINA MEDICAL ASSOCIATION ENTER-TAINS GENERAL ASSEMBLY AT LUNCHEON

Under the guidance of the special committee on Medical Education and the Alumni Association of the Medical College, a splendid program was arranged for the General Assembly, January 25, which included an address by Dr. Reginald Fitz of Boston, a member of the Council on Medical Education and Hospitals of the American Medical Association. President

Des Portes introduced Dr. Fitz who delivered zation to the State and anticipates a large a wonderful message, simple and yet comprehensive, giving the history of the Medical College of the State of South Carolina from its organization one hundred and fifteen years ago up to the present time and included in the story the trends of medical education throughout this country and the world. The address impressed the General Assembly very deeply as one watched the intense interest displayed by the members during the course of its delivery. A large number of physicians from all over the state sat in with the Assembly and the representatives from the various counties vied with each other in introducing their home doctors to the Assembly. The luncheon followed at the Columbia Hotel with approximately four hundred in attendance including members of the Legislature and physicians. Governor Maybank was also a welcome guest at the luncheon.

TRISTATE ASSOCIATION OF THE CAROLINAS AND VIRGINIA MEETS IN CHARLESTON FEB. 20-21

This is the year for the Tristate to meet in South Carolina and the place is Charleston. The Journal welcomes this splendid organiattendance.

THE PEE DEE MEDICAL ASSOCIATION

The recent meeting of The Pee Dee Association at Florence was carried off with its usual cordiality and scientific activity. An interesting pamphlet prepared by Dr. Julian Price gives a sketch of the life of this very spry nonagenarian, founded in 1848, or perhaps even earlier.

An existing fee bill of that date is the Society's birth certificate, and gives light on the manner in which the doctor of the day aimed to secure his living. In a series of brief accounts of the annual meetings since 1910 there are found the names of many of the prominent members of the State Association. and evidence of much timely effort and accomplishment. Our State Association was founded February 14, 1848, and thus claims near twinship with the Pee Dee. May they both continue in friendly relationship and accomplishment even unto and past the day of socialized medicine, and at that time combine their efforts in a future consultation over a frank case of asphyxia neonatorum.

J. I. W.

COLUMBIA MEDICAL SOCIETY MEETING

Dr. Henry T. Chickering of New York City spoke before the Columbia Medical Society on The Treatment of Pneumonia, Monday night, January 9, at the Columbia Hotel. Dr. Chickering is Assistant Professor of Clinical Medicine at Cornell University. He graduated from Harvard University in 1911 and is a diplomate of the American Board of his specialty. Not only has his work in the treatment of pneumonia carried him to the front but he is one of the leading authorities on Tuberculosis.

At 6:30 there was a reception in the ballroom of the Hotel with a Dutch dinner at 7:00 o'clock. Dr. F. E. Zemp read a fifteen minute

paper on Primary Jejunal Ulcer and the discussion was opened by Dr. George H. Bunch both of Columbia.

The new officers of the Society, Dr. R. G. Doughty, President; Dr. A. F. Burnside, Vice-President; Dr. J. T. Quattlebaum, Secretary and W. A. Hart, Treasurer along with the Program Committee are furthering the idea of the educational program and the choice of the speaker for this meeting proved their energetic efforts.

In addition to a large number of visiting doctors from different parts of the state, Dr. J. R. Des Portes, President of the State Medical Association; Dr. Douglas Jennings, President Elect and Dr. E. A. Hines, Secretary-Treasurer attended the meeting.

INTERESTING CASE REPORTS FROM ROPER HOSPITAL

For some time a plan has been under way to present to the physicians of South Carolina case reports from the teaching hospital at the Medical College giving in detail the methods pursued in the wards there. It is hoped that this presentation may be of service to the busy doctor in his practice.—Editor.

CASE STUDY OF SPONTANEOUS HYPOGLYCAEMIA

E. B. CANNON, M. D., ROPER HOSPITAL

The patient a negro domestic of 40 years, was first admitted to Roper Hospital in April, 1938 at which time she was treated for carcinoma of the right breast with netastases. A radical mastectomy was performed and pathological study of tissue revealed carcinoma with metastases to axillary lymph glands. X-ray of chest showed no evidence of pulmonary metastatic growth. Routine urine and blood examinations were essentially normal, but for moderate anemia. Blood chemistry determinations were within normal limits. Blood Wassermans was strongly positive. The patient made a most satisfactory opertive recovery and was discharged 32 days after admission, to continue anti-syphilitic therapy as an out-patient.

The second admission followed 6 months later, at which time the patient was brought to the medical ward in coma. History obtained from husband was: Anorexia of 2 weeks duration, 3 missed meals prior to admission. Approximately 12 hours before admitted the patient drank a "regular size water glass of moonshine". Shortly afterwards there was a period of hyperactivity requiring physical restraint. 7 hours later she passed into a state of coma. No previous nervousness, weakness or syncope were noted.

Physical examination showed a fairly well developed and nourished middle-aged, comatose negro female with Cheyne-Stokes respiration, moist skin, and cherry red nail beds. There was no evidence of external injury, the right side of the chest showed absence of breast and healed operative scar. Pupils were round, equal and reacted to light. Old corneal scars were seen on the right. The neck was not rigid. No abnormal findings appeared in the examination of the lungs. The heart was normal in size and rythm and rate was quite variable. Blood pressure fluctuated between

180/80 and 140/80—recordings made at 10 minute intervals. Patella reflexes were sluggish; Babinski, ankle clonus, and Kernig's were absent.

Laboratory work: Catheterized urinalysis showed amber colored urine with specific gravity of 1015, albumen, a moderate amount, acetone, a trace, and 1-3 granular and hyaline casts per high power field. Neither sugar nor blood was present. Blood examination: R.B.C—4.6 million, W.B.C.—17,800, Hb 12 gms. Differential P.M.N.—84% L.—11%. Monocytes 5%. Blood sugar determination made immediately after admission to the ward revealed sugar thirteen (13) mgm. per 100 and Urea N—100 mgm.

500 C. C. of normal saline with 25 gms. of glucose was given intravenously. During the administration of this solution the patient roused from coma and became hyperactive requiring 4 attendants to restrain her. Speech was incoherent. Within 15 minutes after the glucose solution was begun she was attentive to directions, moderately restless but obedient and asking for water. Further complaints were limited to headaches, hunger and thirst. She remained mentally clear. Frequent feedings of high carbohydrate content were instituted.

A glucose tolerance test 2 days following admission gave readings: fasting 87; after 40 min.—130; 1 hr. 112; 2 hrs.—120; 3 hrs. 95 mgm.; one hundred gms. of glucose by mouth was used in this test. Subsequent blood sugar readings were 78 mgm/% after 12 hours fasting and 69 mgm/% after 24 hours. Several weeks after discharge from the hospital the patient reports an uneventful course and further blood chemistry determinations were within normal range.

The cause of the spontaneous marked hypoglycaemia in this case is unknown, however the probabilities and possibilities are interesting. Certainly to be considered are adenoma of island cells of Langerhans, some toxic cause resulting from ingestion of alcohol, metastasis

of breast carcinoma tissue to pancreatic area, and idiopathic causes—the latter appearing most probable in view of course and subsequent findings.

The prompt response to intravenous glucose administration and subsequent normal carbohydrate metabolism as evidenced by absence of symptoms and normal fasting blood sugar levels are quite striking and interesting.

PNEUMONIA IN CHILDREN

M. W. Beach, M. D., and D. M. Harris, M. D., Charleston, S. C.

We have had more than a casual interest in pneumonia for many years and have been impressed by the large number of patients that die in Roper Hospital each year. We have often wondered if we of the attending staff could work out some method whereby the high incidence of pneumonia could be materially reduced. Therefore, we thought that it might be instructive to make a survey of the pneumonia admitted to the Pediatric Service during the past five years .

572 cases were admitted to the Pediatric Service from 1932 to 1937. Of this number 77 cases were admitted during 1932, 101 during 1933, 151 during 1934, 94 during 1935, and 144 cases during 1936. These cases were classified into lobar and bronchopneumonias. There were 53 bronchopneumonias with 23 deaths and 24 lobar pneumonias with 2 deaths during 1932; 77 bronchopneumonias with 24 deaths and 24 lobars with 2 deaths during 1933; 116 cases of bronchopneumonia with 45 deaths and 33 lobar pneumonias with 3 deaths during 1934; 74 bronchopneumonias with 31 deaths and 20 lobars with 2 deaths during 1935; and 94 cases of bronchopneumonia with 40 deaths and 50 lobars with 4 deaths during 1936. These figures readily indicate that our mortality rate is quite high. In 1932 it was 33.9%; in 1933, 26.7%; in 1934, 31.1%; in 1935, 27.2%; in 1936, 24.1%. If we separate the rates for the two types of pneumonia we have a mortality rate of 38.8% for bronchopneumonia and for lobars 10.2%. However, the total death rate for this five year period was 31.1%. If we classify these cases according to race we find that there were 428 negroes with a mortality rate of 32.2%; while there were only 154 whites with a mortality rate of 19.4%. Nevertheless, if you review the cases for 1936 you will see that there was a large number admitted, and that the fractional and total rate for this period is in the lowest bracket. Now, if we group this series according to age we will find that 291 cases, or more than 50%, occurred during the first year of life. mortality rate for this group was 42.3%. During the second year of life there were 110 cases with a fatality rate of 20.9%. Therefore, almost three-fourths of the cases under consideration occurred during the first two years of life. You can appreciate that any severe infection during this period must be viewed with grave concern. It is of considerable interest to know that many of these patients were handicapped by other conditions. Congenital syphilis, prematurity, infectious diarrhea, marasmus and pertussis were outstanding as shown by these charts.

BRONCHOPNEUMONIA

			Died		Recovered	
Age	White	Col.	White	Col.	White	Col.
1 yr.	50	189	23	99	27	90
2 "	23	55	7	15	16	41
2 " 3 "	7	21	1	4	6	17
4 "	4	13	0	3	4	10
5 " 6 "	6	5	1	2	5	3
6 "	7	6	2	1	5 5 2	5
7 "	3	5	1	1	2	4
8 "	0 [3	0	0	0	3
9 "	2	4	0	1	2	3
10"	2	3	1	0	1	3
11 "	1	3	1	1	0	2
12 "	1	3	0	1	1	2
Total	106	311	37	128	69	183
Mortality Rate		W.	34.33%	C. 41	.23%	

LOBAR PNEUMONIA

			Died		Recovered	
Age	White	Col.	White	Col.	White	Col.
1 yr.	4	47	2	9	2	38
2 "	7	17	0	1	7	16
3 "	3	12	0	1	3	11
4 "	$\begin{vmatrix} 3\\2 \end{vmatrix}$	7	0	1	2	6
5 "	4	5	1	0	3	5
6 "	7	11	0	1	7	10
7 "	4	8	0	0	4	8
8 "	1	4	0	0	1	4
9 "	1	5	0	0	1	5
10 "	3	1	0	0	3	1
11 "	0	1	0	0	0	1
12"	0	1	0	0	0	ī
Total	36	119	3	13	33	106
Mortality Rate W. 8.33%				C. 10	.92%	

The laboratory findings in this series were not outstanding. The average leucocyte count of the cases that recovered was 18,883 with an average of 71.9% polymorphonuclear cells; the average leucocyte count of the cases that died was 18,061, with an average of 57% polymorphocuclears. The number of these cases typed was not sufficient to draw any definite conclusions. It is now conceded that types 1, 6, 14, and 19 are the most common invaders in children, but unfortunately we could neither confirm or deny this statement.

It is worthy of note that in 572 cases of pneumonia, empyema complicated only fifteen of the cases. Thirteen of these complications followed lobar pneumonia and two followed bronchopneumonia; of the latter cases one died. This gave a mortality of 6.6% and an incidence of 2.6%.

Treatment: The treatment for this series was that which is meted out in the pediatric department where keen observation and good nursing are outstanding factors; i. e. bed comfort and the administration to the patient of a sufficient amount of fluids to meet all needs of proper catabolism; food suited to the individual patient so that he may get enough of all the food factors to tide him over his emergency. Drugs played a very unimportant part. Serum was not used in the treatment of these cases.

This series presents the following interesting points:

- (1) The high fatality in this series of bronchopneumonias.
- (2) The low death rate in lobar pneumonia (all types).
- (3) The small incidence of empyema and the low mortality associated with it.

TREATMENT OF GONORRHEAL OPH-THALMIA WITH SULFANILAMIDE

J. B. Traywick, M. D., Roper Hospital CASE 1.

A two weeks old colored male infant, weight 8 lbs. with history of having purulent discharge from both eyes since birth. Smears from both eyes positive for gonococcus on admission.

Physical examination—An apparently normal infant with purulent discharge from both eyes and edema of lids.

Hbg. 68%. Leucocytes 12,200

Polymorphonuclears 57%, Lynphocytes 31% Urine neg.

Treatment—Local to eyes—Pantocain 1/2% sol. 2 drops in each eye every hour. Irrigate eyes with 3% Boric Acid sol. every hour, follow by instilling a drop of 2% Protargal sol. Instill 1 drop 1% sol. Atropine Sulphate in each eye t. i. d. Continuous ice compresses to eyes.

Systemic—Sulfanilamide gr. 2 1/2 t. i. d. for 5 days.

Course—Admitted 11-22-38, purulent discharge from eyes very profuse but soon subsided. Temperature varied from 98°F to 99°F. On 11-28-38 smears from both eyes were neg. for gonococci and remained so. Discharged on 12-2-38 with no discharge from either eye. CASE 2.

A nine day old colored female infant, weight 6 lbs., who had 1% sol. silver nitrate used in eyes at birth, about 3 days later began having purulent discharge from both eyes. Smears from both eyes positive for gonococcus on admission.

Physical examination—An apparently normal infant with purulent discharge from both eyes, lids slightly edematous.

Hbg. 70% (H—H), Leucocytes 11,170 Polymorphonuclears 60%, Lynphocytes 40% Urine—negative

Treatment—Local to eyes as in Case 1. Systemic—Sulfanilamide gr. 2 t. i. d. for 4 days.

Course—Admitted on 11-27-38. On 11-29-38 smears were still positive for gonococci, but discharge was beginning to subside. On 11-30-38 smears were negative and remained so. Temperature varied between 98.2°F and 99°F. Discharged on 12-6-38 with no discharge from either eye.

The significant feature of these cases is that the cure required so much shorter time than did the cure of other patients treated only locally.

PHARMACY AND THERAPEUTICS

BULLETIN NO. 3

Dear Doctor:

Physicians have known for a long time the advantages of prescribing isotonic solutions for nasal and throat membranes. This is a step forward in scientific medicine, and it is gratifying to the U. S. P. and N. F. Extension Committee to see doctors prescribing more and more of these solutions. Pharmacy students are now taught the advantage of solutions of this type, and how to prepare them.

Every professional pharmacist takes a keen interest in his prescription work. He would prefer to compound your prescriptions, using standard official drugs, rather than dispense a preparation compounded by a pharmaceutical manufacturer, when by so doing he can serve you and your patients to a better advantage. It is, therefore, in the spirit of cooperation between the doctor, the pharmacist and the patient that our committee submits the enclosed prescriptions for your consideration when prescribing ephedrine.

The "Isotonic Compound Solution of Ephedrine" was taken from the "Journal of the Medical Society of New Jersey." This prescription contains 1 per cent ephedrine sulfate, 0.5 per cent chlorobutanol, saturated aqueous solution of menthol, which is about 0.1 of one per cent, and is made isotonic with dextrose.

The "Solution of Ephedrine Sulfate" contains 3 per cent ephedrine, 0.5 cholorbutanol, and is official in the New National Formulary, N. F. VI. This solution is usually diluted with an equal volume of water when applied to a mucus membrane. In this concentration it is often prescribed with from 5 to 20 per cent mild silver protein. Mild silver proteins may also be added to the isotonic solution without unbalancing the isotonic properties.

In addition to the widely used *isotonic aqueous* nasal solutions, the oily type is also extensively used. This type of nebulae will be considered in bulletin No. 4 next month.

These prescriptions can be prepared easily

and quickly by your pharamist. The materials cost much less than the wholesale price of the average ready prepared nasal solutions. Your pharmacists would appreciate your cooperation in helping them make this saving when preparations of this type are indicated.

When possible write a prescription which helps reduce the practice of self medication, and protects your own profession as well.

Professionally yours,

W. D. Strother, Chairman, U. S. P. and N. F. Extension Committee.

Note: The U. S. P. and N. F. Extension Service is free to all physicians and pharmacists, including the cards, in South Carolina, on request to the U. S. P. and N. F. Extension Committee, University of South Carolina, Columbia, S. C.

FORMULAE FOR NOSE AND THROAT TREATMENT

COLDS, Isotonic Compound Ephedrine Spray For* 1

Rx

Ephedrine Sulfate ______ gr. ivss
Chlorobutanol _____ gr. ijss
Menthol _____ gr. ss

Alcohol ______ M. x
Dextrose _____ gr. xx
Distilled Water, q. s. ad. _____ oz. J
M. ft. sol. Filter through talc.

*Journal of the Medical Society of New Jersey.

Any mild silver protein may be added to this prescription without unbalancing the isotonic properties.

Prepared and Distributed by

U. S. P. AND N. F. EXTENSION COMMITTEE
Extension Division, University of South Carolina
and

The State Pharmaceutical Association

COLDS, Isotonic Ephedrine Spray with Mild Silver Protein 2

 Rx.
 gr. ivss

 Ephedrine Sulfate
 gr. ivss

 Chlorobutanol
 gr. ijss

 Menthol
 gr. ss

 Alcohol
 M. x

 Mild Silver Protein
 gr. xlv

 Dextrose
 gr. xx

Distilled Water, q. s. ad. _____ oz. j M. ft. sol.

This prescription may be written for any of the mild silver proteins as desired by the physician.

Prepared and Distributed by

U. S. P. AND N. F. EXTENSION COMMITTEE Extension Division, University of South Carolina

and

The State Pharmaceutical Association

COLDS, Isotonic Ephedrine Spray For 3

Rx.

Sol. of Ephedrine Sulfate 3 per cent N. F. ___ dr. iv
Dextrose ____ gr. vxiij
Distilled Water, q. s. ad. ____ oz. j
M. ft. sol.

This prescription contains 1.5 per cent Ephedrine sufate, made isotonic with dextrose.

Prepared and Distributed by

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The State Pharmaceutical Association

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

October 28, 1938 Case of Dr. O. B. Chamberlain ABSTRACT No. 373 (45008)

Admitted Jan. 22, 1938. Died Jan. 24, 1938.

History: The patient was a colored girl age 13 years, admitted in the state of delirium. History was obtained from the mother. The present illness dated from 3 weeks previous to admission and its onset was characterized by "listlessness and fever." The mother first noted patient's skin turning yellow about two weeks before; jaundice was progressive in intensity from that time. The day before admission the patient developed convulsive seizures and became delirious. She vomited once on the same date. No history of drug therapy, pregnancy, diarrhea, melena or hematemesis. Stools described as being clay colored.

Physical Examination: T. 100 rectally, P. 124, R. 26. The patient was incapable of cooperation and acutely ill. The conjunctivae, mucous membranes and skin surfaces were deeply icteric. The regional lymph nodes, particularly the cervical, were generally palpable. The chest was clear to percussion and auscultation. The cardiac apical impulse was felt in the 4th i. c. s. 8 cm. from the midline. Rate was rapid (120), rhythm regular and there was a soft systolic murmur heard over the entire precordium, more marked to the right. The abdomen was somewhat distended. The liver and spleen were not palpable; the liver dulness was diminished. No organs or masses felt; no localizing tenderness to palpation. Reflexes physiological. Extremities were not remarkable.

Laboratory: Urine 1-23-38:

How—voided.
Color—dark brown.
Appear.—Cloudy.
React.—Acid.
Albumin—l plus.
Sugar—none.

Bile—4 plus.

Casts-Hyaline.

Epith.—2 plus.

Pus-6-8PHPF.

Blood-none.

Quant. Bilirubin—3.2 mgms. per cent.

Serum calcium—10.3 mgms. per cent.

Blood 1-23-38.

Hb.—12 gms. (75 per cent).

WBC-16,500.

Polys—77 per cent.

Lymphs-20 per cent.

L. Mono.—3 per cent.

Coag. time—4.5 min.

Bleed. time—1.5 min.

Wassermann-4 plus.

Kline-4 plus.

Icterus Index-145.

Van den Bergh direct-4 plus.

Cholesterol-156 mgms. per cent.

Serum phosphorus—3.7 mgms. per cent.

Course: Duration of hospital course was 2 days. General condition grew progressively worse with continuation of stupor and restlessness transcending into coma. Gradual rise of temperature to 102.6 degrees on the second day, labored respirations with increase in rate and circulatory collapse. At 2:40 P. M. Jan. 24, patient had a generalized convulsion lasting about 30 minutes with residuals lasting up until time of death at 5:30 P. M. of the same date.

Dr. Wilson, Jr.: (conducting), Mr. P. S. Smith, will you open the discussion?

Student Smith: In the case of a colored female of 13 years with progressively increasing jaundice and palpable liver I would consider acute yellow atrophy as a likely possibility. The urinary findings might be compatible with that found in this condition, showing 4 plus bile, albumin, hyaline casts and pus cells. Also the bleeding and clotting time might

be prolonged as in any other condition showing markedly increased bile pigments and salts in the blood. The Van den Bergh reaction was also within keeping of a destructive process. Cirrhosis is unusual in children of this age and would also run a more chronic course. With these considerations and in the absence of anti-syphilitic treatment I would rule out arsenic poisoning but believe the lesion is essentially that produced by widespread destruction of liver tissue, regardless of the etiology.

Dr. Wilson: You mentioned drug therapy. What drugs might give jaundice?

Student Smith: Arsenic, phosphorus, and tri-nitro-toluene.

Dr. Wilson: There is another common one. We will ask another student. Does the inorganic arsenic or the benzene ring produce the destruction in arsphenamine poisoning?

Student Smith: I think it is the inorganic arsenic, because we see similar changes produced in arsenic poisoning from other causes.

Dr. Wilson: How would you rule out catarrhal jaundice?

Student Smith: Its course is much milder and the liver is usually slightly enlarged and tender. However, in the early stages it may be difficult to distinguish between them.

Dr. Wilson: How do you account for the clay colored stools?

Student Smith: This may be explained by destruction of the bile capillaries with back flow of bile into the lymphatics and blood stream.

Dr. Wilson: Could you rule out gall stones?

Student Smith: There is no history of the characteristic pain, and its occurrence is unlikely at this age.

Dr. Wilson: How would you rule out a hemolytic type jaundice?

Student Smith: There is usually a familial history and an anemia, particularly severe during and following the crisis.

Dr. Wilson: Is it possible that the hemoglobin reading of 75 per cent reported by a colorometric method on this patient might be influenced by the high bile index?

Student Smith: I do not know.

Dr. Wilson: This not uncommonly happens. Mr. Jeanes, what do you think of this case?

Student Jeanes: I think that acute yellow atrophy would be difficult to rule out, but syphilis might be a factor in producing this picture.

Dr. Wilson: How would you differentiate the two?

Student Jeanes: If syphilis was present for a year or more without toxic symptoms, I would believe that acute yellow atrophy was the diagnosis. Congenital syphilis often produces wide spread destruction and fibrosis of liver, but I do not believe acute symptoms would appear at 13 years of age.

Dr. Wilson: What functions of the liver might have been destroyed to produce cerebral symptoms?

Student Jeanes: I think that due to destruction of the liver the amino acids are no longer synthesized to form urea as an end product, and the intermediate products cause toxic symptoms.

Dr. Wilson: Then you think his cerebral symptoms may be explained by cholemia? Suppose the patient had eaten some match heads, would you expect a high serum phosphorus?

Student Jeanes: No, and the onset of the disease would be more acute with vomiting.

Dr. Wilson: What do you think caused death?

Student Jeanes: Toxemia caused by massive destruction of liver tissue and the formation of intermediate broken down products.

Dr. Wilson: Mr. Brown, can you name some important function of the liver that might be affected in this condition?

Student Brown: The liver normally builds and stores glycogen from the glucose carried to it by the portal system. With marked liver damage this function would be disturbed.

Dr. Wilson: What about coma? Might this produce coma and what is meant by hepatic coma?

Student Brown: As carbohydrate, protein, and fat metabolism would be disturbed, the patient would probably have a hypoglycemia.

Dr. Wilson: What kind of treatment would you suggest?

Student Brown: I think glucose would be indicated by vein to combat a hypoglycemia. The cerebral symptoms might be explained on this basis.

Dr. Johnson: I think there is one thing that has not been stressed and is of importance in producing liver damage in children. That is the use of vermifuges, carbon-tetra-chloride being the offending agent.

Dr. Wilson: Mr. Ravenel, what would you expect the liver to look like?

Student Ravenel: I think there would be considerable fibrosis of the parenchyma with hypertrophy of the uninvolved liver cells.

Dr. Wilson: Will central necrosis or any exudate be present?

Student Ravenel: No.

Dr. Wilson: Mr. Shepphard, do you agree with that?

Student Shepphard: I believe the liver will be uneven, due to destruction of the liver tissue, but without any definite nodule formation. There may be some fibrous connective tissue formed around the bile coniculi.

Dr. Kelley: If the liver destruction is gradual, there will be time enough for regeneration of the uninvolved bile capillaries, and some fibrosis may be present. In addition these newly formed cells have been demonstrated to possess an immunity to further destruction by the same toxin.

Dr. Lynch: I am glad to hear Dr. Kelley bring out this point that Mac Nider has emphasized, that when chemicals destroy liver cells, the replacing new cells appear to have an acquired immunity to that specific chemical. This is a case of acute necrosis of the liver, but inasmuch as the term acute yellow atrophy has been so long applied, the term should be carried along. I am unacquainted with an acute yellow atrophy from syphilis and believe it is caused by a therapeutic agent. It is possible that this patient was suffering from cinchophen poisoning, as its therapeutic use in medicine is widespread, and a history of having taken the drug is difficult to elicit.

This child had been diagnosed clinically as catarrhal jaundice, and this could not be differentiated from an acute yellow atrophy in its early stages. The underlying pathology of catarrhal jaundice is not well understood, because recovery is the rule, and there has been little chance for post mortem study of the condition. It is probable that in this condition a mild necrosis or degeneration of the cells followed later by healing is the cause of the symptoms. In my mind cinchophen poisoning would be a likely explanation of this child's death, although no light has been thrown on her taking any medicines

containing this drug.

The liver is very small, shows some large lobulations and mottled yellow and red fresh areas of necrosis together with considerable bile staining, which is due in this case to the oxidation of the bilirubin by formalin forming biliverdin.

At this time the slide was shown, showing areas of necrosis, hemorrhage, and formation of new bile capillaries.

Dr. Kredel: How old must these new formed cells be to replace those destroyed whose function is lost?

Dr. Lynch: I can not answer this question. The cells are present but apparently functionless or unable to function sufficiently to maintain liver compensation.

Dr. Kredel: Normal liver tissue, as shown experimentally in dogs, has a large reserve; even able to carry on after approximately 85 per cent of the tissue has been removed surgically. Hence I do not believe these new formed capillaries capable of function.

BOOK REVIEWS

THE TREATMENT OF FRACTURES: By Charles Locke Scudder, A. B., Ph. B., M. D., F. A. C. S., Consulting Surgeon to the Massachusetts General Hospital; Formerly Assistant Professor of Surgery at the Harvard Medical School; Fellow American Surgical Association; Member of the American Society of Clinical Surgery. Eleventh Edition, Revised. 1209 pages with 1717 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth \$12.00 net.

In many respects Scudder on Fractures is the outstanding book in this country and has now reached e'even editions. This is a volume of twelve hundred and eight pages containing seventeen hundred and seventeen illustrations. As would be expected in an up to date book fractures of the hip come in for extensive comments. We are of course delighted that Dr. A. T. Moore of Columbia, Editor of the Department of Orthopedic Surgery in the Journal of the South Carolina Medical Association comes in for very favorable mention as follows in connection with The Operative Internal Fixation Method. On page 847 we note the following:

"This particular method of Moore has been used a relatively short time about two and one-half to three years. If the results after several years continue as satisfactory as the early results then we have in this method a vast improvement over the nonoperative method.

The simplicity of Moore's method; the fixation of the proximal fragment by the tripod of 3 strong nails; the introduction of the nails by hand and without the use of artificial protractors; the slight firm

approximation of the fragments following the nailing; the use of Bozan's drilling procedure; the use of a local anesthetic; the early movement of the part after operation; the elimination of several months of doubt as to union; the absence of joint stiffness at the knee.

All these considerations make me personally choose the Moore method as the most desirable to-day. Moreover, the results thus far confirm me in my choice."

Accompanying this text will be found numerous illustrations of the Moore method.

SURGICAL PATHOLOGY OF THE DISEASES OF THE MOUTH AND JAWS: By Arthur E. Hertzler, M. D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas, Professor of Surgery, University of Kansas. 206 Illustrations. Philadelphia, Montreal and London, J. B. Lippincott Company.

Hertzler's Monographs are now well known the world over and it is fitting that this master surgeon should close his ten series of volumes on this subject. In his preface he notes that the tendency has been for his patients along this line to consult the specialists in the upper respiratory passages and the dentists. Even so he still believes that the general surgeon should keep in touch with this pathological condition at all times. The author recalls that he has been engaged in writing books for thirty-five years. Such a book as this would be more or less hazy without extensive illustrations. These have been amply supplied so that he who runs may read.

WOMAN'S AUXILIARY

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THE STUDENT LOAN FUND OF THE WOMAN'S AUXILIARY TO THE SOUTH CAROLINA MEDICAL ASSOCIATION

At the Student Loan Fund Committee meeting to be held in April at convention time the *third* scholarship loan will be awarded. All application blanks must be in hands of the committee by March 1, 1939.

"Any resident son or daughter of a physician who is or has been a member of the South Carolina Medical Association is eligible for benefit of this fund."

An application form may be had by writing to any of the following: Mrs. L. O. Mauldin, Chairman, 500 Pettigrue St., Greenville, S. C.; Mrs. C. P. Corn, Co-Chairman, Crescent Ave., Greenville, S. C.; Mrs. J. W. White, Treasurer, Hillcrest Drive, Greenville, S. C.

RULES FOR STUDENT LOAN FUND

1. That the Student Loan Fund be used for students attending the South Carolina Medical College as long as it is a grade "A" school.

- 2. That applicants Junior and Senior year of college be fully investigated as to scholarship, and his scholarship be of high standing—at least "C" grades.
- 3. Only resident sons and daughters of physicians who are or have been members of the South Carolina Medical Association are eligible for benefit of this fund.
- 4. A detailed application on a form supplied by the Student Loan Fund Committee is required of all who desire loans. Such application must be accompanied by two letters of recommendation as to character and integrity, by records of preparatory work, and by a physician's statement of applicant's sound health.
- 5. The maximum loan allowed to one student in one year is \$250.00. A note, satisfactorily endorsed, must be given for each separate amount received, \$1,000.00 to be the maximum loan to one student, and not establish an additional scholarship until the \$1,000.00 completion of the one before.
 - 6. No interest charged.
- 7. Repayment shall be made at rate of ten dollars (\$10.00) per month, beginning one year from date of graduation or completion of professional training. Any borrower leaving college before graduation for other than providential causes, shall begin repayment in three months after date of leaving.
- 8. The College shall report student's progress to the Chairman of the Loan Fund Committee at the end of each semester. Loan may be discontinued at any time, to any student whose work or conduct becomes unsatisfactory.
- 9. Every borrower of this Fund shall keep the Chairman of the Committee informed of any changes in address, so long as any part of his indebtedness to the Funds remains unpaid.
- 10. All applications for Loan must be in hand of Chairman of Loan Fund by March 1st.

SOUTH CAROLINIANA

J. I. WARING, M.D., CHARLESTON, S. C.

ARS MEDICA AND ARS POETICA, by J. W. JERVEY, GREENVILLE, SOUTH MED. J. 32:1, JAN., 1939.

In his presidential address, Dr. Jervey parades and quotes aptly the physicians who have been poets and the poets who have been physicians—"jewels which must forever adorn the crown of the Art of Medicine."

CYSTOMETRIC OBSERVATIONS IN NEURO-SYPHILIS, by I. A. PHIFER and OTHERS. SPARTANBURG, UROL. AND CUT. REV. 43:51, JAN., 1939.

The authors conclude that urinary cystometry is a valuable procedure to be included as routine

for diagnosis, prognosis, and indications for treatment in neurosyphilis.

USE OF OSCILLOGRAMS IN STUDIES OF THE VOICE, by R. B. TAFT, CHARLESTON. ARCH. OTOL. 28:999, DEC., 1938.

Dr. Taft describes a relatively simple apparatus for making tracings.

RETINOBLASTOMA, by J. F. TOWNSEND, CHARLESTON. SOUTH. M. J. 32:75, JAN., 1939.

Three cases of retinoblastoma occurring in children of the same mother, in successive pregnancies. Two were treated successfully surgically.

NEWS ITEMS

The Southeastern Surgical Congress announces the Tenth Anniversity Post Graduate Surgical Assembly to be held in Atlanta, Georgia, March 6, 7, 8, 1939, at the Biltmore Hotel. Among the speakers will be Dr. Irvin Abel, President of the American Medical Association, Louisville, Kentucky; Dr. Walter Alvarez, The Mayo Clinic, Rochester, Minnesota; Dr. Morris Fishbein, Editor Journal American Medical Association, Chicago, Illinois; Dr. George W. Crile, The Crile Clinic, Cleveland, Ohio; Dr. George H. Bunch, Columbia, S. C., and Dr. Daniel Maguire, Charleston, S. C. Information concerning the meeting may be received from Dr. B. T. Beasley, Secretary-Treasurer, 701 Hurt Bldg., Atlanta, Georgia.

At the January meeting of the Laurens County Medical Society, held at Laurens, January 26, Dr. F. K. Shealey of Clinton, was elected President for the ensuing year. Other officers of the Society named at the meeting were as follows: Dr. M. B. Nickels, Vice-

President, Laurens, S. C., and Dr. J. L. Fennell, re-elected Secretary-Treasurer, Waterloo, S. C. Dr. F. L. Webb of Clinton and Dr. Martin Teague of Laurens were elected delegates to the convention of the South Carolina Medical Association to be held in Spartanburg, April 11, 12, 13, 1939.

The annual meeting of the Tri-State Medical Society including doctors of the Carolinas and Virginia will meet in Charleston, February 20-21. Dr. John de J. Pemberton of the Mayo Clinic, Rochester, Minnesota, has been invited to make the principal address.

Dr. and Mrs. Austin T. Moore of Columbia attended the meeting of the American Orthopedic Association held in Memphis, Tennessee, January 16-22.

Members of the Carolina Writers Society were given an unusual treat at their fort-nightly meeting on Tuesday, January 17, when Dr. Will Fewell of Greenville, S. C., read his prize winning play "There Ain't No Justice." This play won first place in a contest recently sponsored by the Little Theatre in Greenville and also won first prize in a one act play in Augusta, Georgia. The scene of the play is in the vicinity of Greenville.

Dr. W. Steele Dendy of Pelzer accompanied by Dr. George Wilkinson of Greenville attended the Post Graduate Assembly meeting held in Atlanta, January 21-22.

The members of the Columbia Medical Society were guests of the Medical Auxiliary at a buffet supper, Friday evening, January 27. The party was given at the country home of Dr. and Mrs. Robert Durham on the Platte Spring Road. Mrs. Izard Josey is President of the Columbia Medical Auxiliary. Mrs. T. A. Pitts, served as Chairman of the supper arrangements committee and Mrs. R. E. Seibels as Chairman of the decorations committee for the occasion.

The South Carolina Mental Hygiene Society held a meeting at Clinton, S. C., January 28. Among the speakers were Dr. Everette Poole, internist of Greenville, who spoke on "Maturation of the Nervous System" and Dr. W. P. Beckman of the State Hsopital who spoke on "Emotional Development."

ART TELLS HISTORY OF AMERICAN MEDICINE



"Beaumont and St. Martin"

"Beaumont and St. Martin" is the first of six large paintings in oil memorializing "Pioneers of American Medicine" which artist Dean Cornwell will complete in the next few years. Others in the series are: Dr. Oliver Wendell Holmes, Dr. Ephraim McDowell, Dr. Crawford W. Long, Dr. William T. G. Morton, and Major Walter Reed, and one woman, Dorothea Lynde Dix who, while not a physician, stimulated physicians to study insanity and feeblemindedness.

Arrangements to supply physicians with free, full color reproductions of "Beaumont and St. Martin" without advertising, and suitable for framing, have been made with the owners, John Wyeth & Brother, 1118 Washington Street, Philadelphia, Pa.

SOCIETY REPORTS

LEXINGTON COUNTY MEDICAL SOCIETY MEETING

The Lexington County Medical Society held its regular monthly meeting at Lexington, January 5, with Dr. F. L. Geiger, President, presiding. This being the time to elect officers for the ensuing year there was no scientific program.

The following officers were elected: Dr. A.

T. Hutto, President, Pelion, S. C.; Dr. James Crosson, Vice President, Leesville, S. C.; Dr. J. H. Mathias, re-elected Secretary-Treasurer, Lexington, S. C.

At the meeting the month before this one the Society was the guest of Dr. Karl Able, at his Club House near Leesville. Dr. A. L. Ballenger, read a paper on Common Diseases of the Eye. Dr. D. S. Keisler, read a paper on Organized Medicine. Dr. Symmes, of St. Matthews was a visitor and made a short talk. After this a delicious turkey dinner and every thing that goes with it was served.

J. H. Mathias, M. D., Secretary

MARLBORO COUNTY MEDICAL SOCIETY MEETING

The Marlboro County Medical Society held its annual New Year Meeting and banquet at the Masonic Temple, Bennettsville, January 10, with Dr. D. D. Strauss, President and Dr. L. Paul Barnes, Secretary, both of Bennettsville.

This was the 19th consecutive year that this meeting has been held. It has consistently grown larger until now it is probably the second largest medical gathering held within the state. It not only draws together the profession of this section but, Marlboro County being a border county, it brings together the medical men of North and South Carolina.

A reception was held at the Marlboro County General Hospital from 3:30 to 5:30 P. M. This was followed by the scientific program and banquet.

Out of state invited guests appearing on the program were Dr. Arthur H. London and Dr. Frank K. Boland. The former is a graduate of the University of Pennsylvania and a fellow of the American Academy of Pediatricians. He spoke on The Treatment of Pneumonia in Children. The latter is Professor of Clinical Surgery, Emory University Medical School, Georgia, President Atlanta. Southeastern Surgical Congress and Fellow of the American College of Surgeons. His subject was Diseases of the Colon. The discussion on Dr. London's paper was opened by Dr. Wm. H. Kelly of Charleston and the discussion on Dr. Boland's paper by Dr. A. G. Brenizer of Charlotte.

Dr. J. D. Guess, Obstetrician and Gynecologist of Greenville, South Carolina and graduate of the S. C. Medical College spoke on Some Observations Concerning Practical Obstetric Practice and the discussion on his paper was opened by Dr. Oren Moore of Charlotte. Dr. W. H. Kelly, Associate Professor of Medicine, Medical College of the State of South Carolina, spoke on The Manage-

ment of the Anemias and the discussion on his paper was opened by Dr. O. B. Mayer of Columbia.

A delicious four course turkey dinner was served at the banquet with Dr. Douglas Jennings of Bennettsville, President Elect of the S. C. Medical Association, as Toast Master. After dinner talks were made by Honorable Throop C. Crosland, Mayor of Bennettsville; Dr. J. R. Des Portes, President S. C. Medical Association of Fort Mill and Dr. E. A. Hines, Secretary-Editor S. C. Medical Association of Seneca.

YORK COUNTY MEDICAL SOCIETY MEETING

Dr. Roy A. Thomas of Rock Hill, world traveler, was the principal speaker at the annual meeting of the York County Medical Society held in Rock Hill, January 6. He talked on Europe and gave much interesting information about countries there that are now in the news spot-light.

New officers for the ensuing year were elected as follows: Dr. Davis Bigger, President, Rock Hill; Dr. W. K. McGill, Vice-President, Clover; Dr. E. E. Herlong, Secretary-Treasurer, Rock Hill. Delegates to the South Carolina Medical Association meeting to be held April 11, 12, 13, are Dr. Daisy Van Hoesen, Rock Hill; Dr. I. E. Massey, Rock Hill, and Dr. W. E. Simpson, Rock Hill. Each delegate was given the privilege of electing an alternate.

The meeting was largely a social one with the wives of the members in attendance. A turkey dinner was served by the Thursday Afternoon Book Club. The attendance was unusually large and was representative of the entire county.

SOUTH CAROLINA PEDIATRIC SOCIETY MEETING

Dr. D. Lesesne Smith, Jr., of Spartanburg was elected President of the South Carolina Pediatric Society at a meeting held at Hotel Columbia, Columbia, S. C., January 23. Dr. Smith succeeds Dr. Mylnor W. Beach of Charleston as President of the Society. Other

officers elected were Dr. Lonita Boggs of Greenville, Vice President and Dr. William Weston, Jr., of Columbia, Secretary and Treasurer.

Dr. Martha M. Elliott, Assistant Chief of the Children's Bureau, Washington, D. C., was the invited guest speaker. Dr. Elliott spoke on "The Maternal and Child Health Program Under the Social Security Act" and told of the possible improvement that may be effected in this state, particularly in the fields of pediatrics and obstetrics. She outlined the programs that are being followed in several states and offered these as a suggestion to South Carolina.

Dr. Wilson Ball made a report on children bureau clinics in this state and described the progress that had been made since the work was begun in February, 1936.

The outgoing president made a few remarks relative to the suggested tri-state meeting of the society.

The annual meeting of the state group will probably be held in Columbia in the fall next year, it was announced.

SECOND DISTRICT SOCIETY MEETING

The second District Medical Association held its annual meeting at the Columbia Hotel, Columbia, S. C., January 26, beginning at 5 o'clock, P. M. It was particularly fitting that this meeting was held in Columbia with Dr. W. W. King, President, as the men in Batesburg have looked after this association for several years, except for the last meeting in Aiken.

Dr. Paul H. Culbreath of Ellenton, South Carolina, read a paper on Congenital Hemolytic Jaundice. Dr. Culbreath has taken a great deal of interest in this condition and his paper was of general interest to the physicians attending the meeting.

Dr. C. C. Coleman, of Richmond, Va., Professor of Neuro-Surgery at the Medical College of Virginia for twenty-five years and also Professor of Neuro-Surgery at the University of Virginia, was the guest speaker. His topic was "The Management of Acute Head Injuries."

Dr. L. Emmett Madden, Internist of Columbia, read a paper on Coronary Thrombosis (the doctor's disease). Dr. Madden's paper had accompanying electro-cardiograms and was of special interest to the profession.

BOOK REVIEWS

MENTAL THERAPY Studies in Fifty Cases. By Louis S. London, M. D. Formerly Passed Assistant Surgeon (R) United States Public Health Service: Medical Officer United States Veterans Bureau; Assistant Physician Central Islip State Hospital, Central Islip, New York, and Manhattan State Hospital, Wards Island, New York.

Volumes I and II. Price \$12.50. Covici Friede Publishers, 432 Fouth Avenue, New York City.

This is a unique and monumental work dedicated to the physicians of the State Hospital service in the United States. The plan of these volumes centers around a fascinating record of fifty case histories each of which reads like a brilliant psychological novel. Through it all runs the story of the development of this speciality in medicine from empiricism to the approach of an exact science. Many difficult mental problems have been largely clarified and every doctor will find much information of practical value in his daily work contained therein.

CANCER—ITS DIAGNOSIS AND TREATMENT By Max Cutler, M. D., Associate in Surgery, Northwestern University Medical School; Chairman, Scientific Committee, Chicago Tumor Institute; Consultant, Tumor Clinic and Director, Cancer Research, United States Veterans Administration, Hines, Illinois; and Franz Buschke, M. D., Assistant Roentgenologist, Chicago Tumor Institute; Late Assistant, Roentgen Institute, University of Zurich. Assisted by Simeon T. Cantril, M. D., Director, Tumor Institute, Swedish Hospital, Seattle; Late Assistant, Chicago Tumor Institute. 757 pages with 346 illustrations. Philadelphia and London. W. B. Saunders Company, 1938. Cloth, \$10.00 net.

This book has been written for the purpose of interpretating the more common forms of cancer to the profession and well has this object been attained. The illustrations are unusually good and the entire volume should prove to be not only illuminating but fascinating to the reader.

DISEASES OF THE NOSE, THROAT AND EAR: By W. Wallace Morrison, M. D., Clinical Professor and Chief of Clinic, Department of Otolaryngology, New York Polyclinic Medical School and Hospital. 675 pages with 334 illustrations. W. B. Saunders Company, 1938. Cloth, \$5.50 net.

This book has been written largely for doctors in

the field and by a teacher of post graduate students. Enough of anatomy and physiology is presented to clarify the various methods of treatment indicated. The simpler forms of treatment within the scope of the general practice of medicine are clearly presented.

NEWS ITEMS

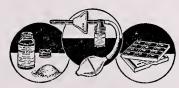
Dr. and Mrs. J. W. Varner and little son, Van, of Kingstree, S. C., left the first week in February for Conway, S. C., where they will make their home in the future. Dr. Varner has accepted work as head of the Urological Department and will also do X-ray work at the Conway Hospital. In addition to this work he will have a private office in the business section of Conway. The Conway hospital is enlarging its plant at this time adding 32 beds, making a total of 77.

Dr. Chapman J. Milling, a member of the Staff of the State Hospital, Columbia, S. C., and a graduate of the Presbyterian College, Clinton, S. C., addressed a lay audience composed of the student body of his Alma Mater and citizens of the community, February 14, at 7:30 P. M., in the College auditorium. In addition to performing the duties required of him in his medical profession Dr. Chapman has found time to make use of his talent for the composition of poetry. His compositions have

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been published in The Forum, the Literary Digest and numerous other Journals. His recently published book of poems "Singing Arrows" has elicited much praise from the public in general as well as from South Carolina's poet laureate, Archibald Rutledge. Dr. Chapman has addressed other audiences on the subject of his contributions to the field of poetry and it was a great treat to those who had the pleasure of hearing him this time.

Dr. Irving S. Barksdale, Health Commissioner of Greenville County, spoke before the Pelzer Fellowship Club at its regular monthly meeting held at the Community Building, Pelzer, S. C., Saturday night, February 4. His subject which was entitled "Health in General", was very instructive. The Woman's Missionary Society of the Tabernacle Baptist Church served a delicious supper.

The new Oconee County Hospital at Seneca opened for the reception of patients on Feb-

ruary 6: An invitation was extended to the public to visit the institution on this occasion and it was estimated that three thousand persons took advantage of this opportunity to inspect the building. This hospital was a WPA project, started about three years ago and represents an out-lay of about seventy-five thousand dollars. It has accommodations for forty patients. The location of the hospital is ideal, on a seven acre plot of land situated about two miles west of the city between the Southern Railway and the Blue Ridge Railway and on the main highways to Atlanta and Highlands. The Superintendent of the hospital is Miss E. L. Robbins, formerly Superintendent of the Camden Hospital and more recently of the Toccoa Hospital. The Oconee County Hospital Association which provides for a lay Board of Trustees will control the business features of the hospital. The Oconee County Medical Society will constitute the Staff of the Hospital.

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The Present Status of Prostatic Surgery

LAWRENCE P. THACKSTON, M. D., ORANGEBURG, S. C.

The prostatic now has a much better outlook for the future than he had in the nineties. At that time, castration, which was the first surgical proceedure for correction of the inability to void, was being abandoned due to the lack of uniformity of results, the majority not having any great benefit. About all that could be hoped for at this time was catheter life with the resulting danger from infection or permanent supra-pubic drainage. Needless to say both of these methods of treatment were very unsatisfactory. In July 1898 Hugh Young did the first prostatectomy done at Johns Hop-Improvement in this very important operation has been directly associated with the emancipation of the urologist from the lowly position which he occupied in the profession, he being held in contempt by the large majority as a man only capable of handling venereal diseases, and the acceptance of the present day urologist as a respected member of the surgical specialties.

The first prostatectomies were done suprapubically in one and two stages. An enormous amount of knowledge was obtained and put in use concerning the preoperative and postoperative care and it rapidly was very forcefully shown that good preoperative and postoperative care was imperative. It is not the purpose of this paper to go into too much technical detail but we cannot overlook the discovery of the value of fluids subcutaneously and intravenously brought out at this time.

Keyes and Squire have done much to perfect suprapubic eneucleation of the prostatic adenoma, while Young shortly after starting his work at Hopkins branched off into perfecting the perineal route. Since 1902, when Young did his first perineal operation and started using his prostatic tractor, he has perfected a beautiful procedure and the controversy has raged between the advantages of the suprapubic approach and the perineal one. This controversy became very bitter at times but had practically simmered down by 1920 to both groups doing their own operations with mutual respect for the advantages and disadvantages of both routes. It had been definitely proven that the removal of the prostate was a misnomer and that the obstruction was due to hypertrophy of the mucous and submucous glands with the true prostate pushed out beyond the false capsule. Both methods had the common purpose of enucleating the adenoma or adenomas completely by the different approaches and left the true prostate behind.

Since 1900 the urologist had been intrigued with the idea of removing the prostate transurethrally. The first procedure suggested was that of Bottini who used a very ingenious cautery device for incising the hypertrophied gland. This method enjoyed quite a bit of popularity for some time but after about three years was abandoned due to poor results and high mortality. In 1909 Hugh Young brought out his cold punch which was nothing but a hollow tube with a fenestrum in it to engage the tissue and a round tubular knife to cut it out. This instrument is still in use. It was never

Read before the Medical Society of South Carolina, Charleston, S. C., 1938.

intended to cut glandular obstructive tissue, which is highly vascular, but rather scar tissue and fibrous tissue which does not bleed readily. The small amount of bleeding usually seen was controlled by fulguration with the diathermy current. About 1920 Caulk of St. Louis perfected a cautery punch which with slight modification he is still using to do all types of prostatic operations. This instrument depends upon a cautery blade to excise the tissue and at the same time control hemorrhage. This was a much more useful instrument and had a great share in popularizing the transurethral approach. However, the instrument which was due to revolutionize prostatic surgery was brought out shortly after this by Stern in New York City. This instrument had a wire loop which was powered by radio frequency tubes and cut tissue beautifully. However, it had no coagulating power and hemorrhages following its use were terrific. The instrument was practically abandoned until Davis of Greenville, S. C., saw the possibilities of it, and being an electrical engineer as well as a urologist he replaced the wire of the loop with a heavier one which would allow him to use diathermy current for coagulation of the bleeding vessels and also devised a magnetic switch which allowed him to switch from the tube cutting unit to the diathermy coagulation unit without changing the controls on the instrument. After this he proceeded to operate upon a number of prostates transurethrally. He was unable to get much support of his method for several years until he sold Crowell of Charlotte on the technique and Crowell through his national reputation and influence helped him tremendously to become recognized. Unfortunately the mistake of representing the procedure as a minor one and an office procedure was made. This caused a number of men to become interested and gave the opportunity to instrument houses of selling a large number of these outfits to men who were not competent urological surgeons. The mortality and morbidity rose sky high. The procedure drew a lot of censure and quite a number of hospitals passed regulations prohibiting the performance of transurethral operations of the prostate. spite of the criticism and the almost universal poor results, some men saw the possibilities of

this operation and persisted in its perfection. The outstanding ones probably were Davis of Greenville, Kretchmer of Chicago, Bumpus of the Mayo Clinic, McCarthy of New York and Alcock of Iowa City. A very bitter controversy now arose which was even more sharp than the old perineal-suprapubic row of years before. The experts on open prostatectomy unfortunately compared their results to the poorest class of work being done transurethrally and the expert resectionest did likewise in their comparisons and the literature was flooded with a mass of misinformation which certainly beclouded the issue. One noted Southern urologist went so far as to say that in his experience he had never seen as much downright lying as was being done about this work. In the past two years, and especially the past year, there has been time for a true evaluation of the method and its true value and place has been ascertained. Although there are still a few men on both sides of the fence who do not see any possible good in the other operation, notably Keyes of New York, who says resection is an unsurgical operation that provides miserably inadequate drainage, and Thompson of the Mayo Clinic, who thinks 100% of prostates should be removed transurethrally, the vast majority of the recognized urologists feel that both of these men are mistaken and that a certain percentage of prostates are best removed transurethrally and a certain percentage by open methods and still another percentage could be done by either method with good results. Livermore of Memphis covers the situation very nicely when he says that a man who tries to do all prostatectomies transurethrally is almost as big a fool as one who does all by open methods, and I might add that Livermore is an ardent resectionist. No fair-minded person will question that resection, carried out on a medium bar or small prostatic obstruction, correctly, will give, in most cases, a shorter and more uneventful convalescence than any other prostatic procedure. Neither do I think that anyone will question the fact that removal of huge amounts of tissue as I have here illustrated can be considered a casual procedure by whichever method you may elect. Then too it must be remembered that resections in the simplest

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cases can and do have complications. fortunately some essayists have created the idea with their papers that resections done by experts never have complications. From personal observation in the clinics of Thompson at Mayos, Foley at St. Paul, Kretchmer at Chicago, McCarthy at New York, Davis of Greenville and Alcock of Iowa City, I am certain that the men who have done the most of this work have the complications just as other competent men do. I have observed early and late massive postoperative hemorrhages, blood stream infections, incontinence of urine, inability to void, necessity of going back two and three or more times to remove sufficient tissue, peri-urethral abscesses, extravasation of urine, uremia, thrombi, and a host of minor complications too numerous to mention, in the best transurethral clinics in the country. will take years to counteract some of the false ideas concerning the minor nature of resection. I have had patients come into my office desperately ill with enlarged prostates expecting to be resected with no preoperative treatment and to leave that afternoon or the next day and adding insult to injury by informing me that I was behind the times as they were sure if I were competent, I could do this for them. I have had patients with prostates that weighed several hundred grams who had been assured by their family physician that I could take out the gland in a few minutes and that they could be back in less than a week with no regard to the state of their hearts, kidneys, or anything which we have found out over a period of years is very important in prostatic surgery. I am not saying that prostates even as large as the specimens I have here cannot be removed transurethrally. But I do say that if you do not remove all of the tissue your results will be impaired and that I have seen Alcock who has done over thirty-five hundred of these operations go in as many as three times to remove as much as seventy-five grams of tissue. Each of these specimens here weighed well over one hundred grams.

I also wish to call your attention to statements by Davis who emphatically states to get a good result as would be expected with open prostatectomy, one has to remove the entire adenoma. It can be done. The question

is how many stages will be necessary? How much tissue should be removed, when should we stop, how long should we keep the patient on the table and a number of other factors which I will not bore you with. Suffice to say there is plenty of careful consideration necessary when undertaking the removal of a prostatic obstruction and we should not enter upon it without careful thought concerning all factors involved. I fully agree with several writers on the subject who say that a man does not become thoroughly orientated and proficient in this operation until he has done at least fifty re-My personal opinion is that approximately twenty-five per cent of the prostatic obstructions require transurethral removal to get a good result, that about the same percentage require an open operation, either perineal or suprapubic (I prefer suprapubic) and that about fifty per cent can be done either way with good results. I am doing more and more of this last group transurethrally, about one hundred per cent. An operation which does not get rid of the residual urine is not a curative procedure; just voiding of urine is not enough. Many resections are chalked up as successful when the patient still has a considerable residual of infected urine. On the other hand I have had to resect several cases that I had previously done suprapubic operations on for bars and contraction at the vesical neck.

The purpose of this rather rambling paper has been to bring to your attention that surgery of the bladder neck has not reached the stage where any operation is a panacea, that it is still very necessary to treat these prostatics very carefully before and after operation, that no one without careful examination can state which operative procedure is best, that resection, although a wonderful advantage, still carries with it plenty of grief in the best hands, that prostatectomy by suprapubic route or perineal is still operation of choice in some cases. Last, but not least, I want to beg of you not to send your patients to the urologist of your choice for a certain operation but rather instruct them to consult the urologist in regard to the procedure best suited to his individual case.

Dr. John Moultrie of Charles Town

By Pierce Rucker, M. D., Richmond, Virginia

Recently, on the occasion of the organization of the South Atlantic Association of Obstetricians and Gynecologists, I1 attempted to show the likenesses of the distinguished Obstetricians and Gynecologists of the past who had lived and worked in the Southeastern States. The only one whose portrait I was unable to find was Dr. John Moultrie who is generally conceded to have been the first man2 to practice Obstetrics in this country. only was I disappointed in not finding a portrait of him, but in the pursuit of the portrait I became hopelessly confused by the discrepancies in dates until I began to question whether there was a single Dr. John Moultrie. It is not unusual to find doubts as to the authenticity of birth dates. In the case of Dr. John Moultrie the dates of graduation and of his death varied greatly. Sometimes he is referred to as the first American to obtain an M. D. degree abroad, (Garrison³, David Ramsay⁴ and Samuel Lewis⁵) and sometimes as the second American (Toner⁶).

According to the South Carolina Historical and Genealogical Magazine⁷ John Moultrie, the Emigrant, emigrated to Charles Town in Carolina in the early part of the 18th century. He returned to Edinburgh where he received the degree of M. D*. He went back to Charles Town in 1729 in which year his name appears as one of the founders of the St. Andrew's He married (1) Lucretia Cooper by whom he had four sons; John, Lieutenant-Governor of Florida, James, Chief Justice of Florida, William, Major-General in the War of the American Revolution and Governor of South Carolina, and Thomas, a Captain in the 2nd Regiment in the American Revolution. He married (2) Elizabeth Matthews by whom he had one son, Alexander, the first Attorney-General of South Carolina. John, the Emigrant was born in Culross, Shire of Fife, Scotland in 1702 and died (in Charles Town) in 1771. In Vol. 17, of the same magazine⁸, the date of his death is given more specifically as Tuesday, Dec. 10, 1771.

According to Packard, "Dr. John Moultrie came to this country and began the practice of medicine in Charleston, South Carolina, in 1733, remaining in practice until 1773, during most of which time he stood at the very head of his profession in that city." He quotes from Thacher10 as follows: "He was especially distinguished for his skill in obstetrics and his death was regarded as a public calamity, several of the ladies of Charleston bedewed his grave with tears, and went into mourning on the occasion. The year after his decease was distinguished by the deaths of several women in childbirth. While he lived they thought themselves secure of the best assistance in the power of man or of art, in cases of extremity. losing him they lost their hopes. Depressing fears sunk their spirits, and in an unusual number of cases produced fatal consequences."

Toner's account is essentially the same. "In South Carolina this department (obstetrics) was assumed by Dr. John Moultrie, who commenced practice in Charleston as early as 1733 and for forty years was the most celebrated physician and popular obstetrician in the State or in the South. It is probable that his devotion to obstetrics antedates that of any other physician in America." Blanton says that Dr. John Moultrie of Charleston was the first regular obstetrician in this country and that he died in 1775.

From the above it would seem that Dr. John Moultrie, the Obstetrician, was born in Culross, Shire of Fife, Scotland, in 1702, graduated at Edinburgh (date not stated) and practiced in Charleston for some forty years, from a date that is variously given until his death. The date of his death is sometimes stated as 1771 and sometimes as late as 1775 (Blanton).

Dr. John Moultrie of Charleston, who has the distinction of being the first American to obtain an M. D. degree at Edinburgh and the second American to obtain an M. D. degree abroad, was born in 1729 and died in 1798. At

^{*}John Miller, Assist. Clerk, Edinburg University, informs me that there is no record of John Moultrie obtaining an M. D. degree at this time. There is a record of John Moultrie of Carolina obtaining a degree in 1749.

least these are the dates given on the index cards12 of the catalogue of the Library of Congress. He graduated in 1749 with a thesis on vellow fever. This thesis was translated into German in 1805 by Karl Paulus and into French the same year by Aulagnier¹³. It would be supposed that this Dr. John Moultrie was the son of Dr. John Moultrie, the Emigrant, whose first son was named John, but no mention is made in the article in the South Carolina Historical and Genealogical Magazine of his being a doctor of medicine, merely of his being Lieutenant-Governor of Florida. However, the sketch of the Lieutenant-Governor in the Dictionary of American Biography14 begins as follows: "Moultrie, John (Jan. 18, 1729-Mar. 19, 1798) physician, lieutenantgovernor of East Florida, Loyalist, was the eldest of six sons of Dr. John Moultrie, an eminent physician of Charles Town (Charleston), S. C., and descendent of an ancient Scotch family whose seat was Seafield Tower on the Firth of Forth, County Fife."

Thacher's account also clears up the question as to the number of Dr. John Moultries, but adds confusion as to the dates. He says that Dr. John Moultrie came to this country in 1733 and that he died about the year 1773. Dr. Moultrie left a son John, who was eminent in literature and medical science; he was the first Carolinian who obtained a medical degree from the University of Edinburgh, where in 1749 he defended a thesis "De Febre Flava". He was afterwards lieutenant-governor of East Florida.

If the elder Dr. John Moultrie came to this country in 1733, his son John must have been born after that time for he is spoken of as a Carolinian. In that case he could have been scarcely sixteen years of age when he obtained his M. D. degree from Edinburgh in 1849. The date of emigration as given in the South Carolina Historical and Genealogical Magazine (V:229, 1904) is probably more nearly correct. Wilson¹⁴ says that he came to this country prior to 1729. If the younger Dr. Moultrie was born Jan. 18, 1729 as stated in the Dictionary of American Biography¹⁴, then he would have been twenty years old when he graduated in medicine, a more likely age.

As to the date of death of the first Dr. John

Moultrie, one would naturally give credence to that in an historical and genealogical magazine⁸, as genealogists are naturally more careful in checking dates than a general medical historian like Thacher. Furthermore, when the date of death is further fortified by the day of the month and the day of the week, it carries more conviction.

It would seem, therefore, that there were two Dr. John Moultries of Charleston. The first emigrated to this country before 1729, graduated from Edinburgh and practiced his profession brilliantly until he died in Charleston, Tuesday, December 10, 1771s. The second, the son of the first, was born in Charleston Jan. 18, 1729, was the second American to obtain an M. D. degree abroad, graduating from Edinburgh in 1749, deserted his profession for politics and died in England in obscurity Mar. 19, 1798.

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Congenital Vomiting--Causes and Treatment

WILLIAM WESTON, JR., M. D., COLUMBIA, S.C.

You no doubt are aware that injuries may occur at birth, yet not manifest any noticeable symptoms or sign for months as some of the birth injuries. Vomiting in infants is a symptom complex often puzzling that requires immediate and thorough investigation in order that a favorable outcome may be realized. Most of the cases if handled intelligently, medical treatment suffices. When operation is found necessary it is essential to have the baby in as good condition as possible.

Character of the vomitus and type of vomiting is important. Some rolls back—some is projectile. The appearance of the vomitus is important as its contents will indicate the stage of digestion, furthermore, it will suggest the site of obstruction. If there is bile present in the vomitus the obstruction is in or below the duodenum, whereas if there is no bile then the lesion must be above the duodenum.

The resulting malnutrition and dehydration from vomiting will produce a chemical unbalance*1 of the body fluids. Unless corrected early by hypodermoclysis, intraperitoneally or intravenously with saline, glucose or Hartmann's solution the baby's chances will be remote which makes the infant a poor risk. It has been found in rats *2 when Calcium and Potassium salts are added to diets deficient in minerals practically no intestinal stasis occurs. All of us are too prone to disregard the vomiting or spitting up of the new born which is more likely true in the hospital than in the home since we have one caretaker in the home where there are frequently several in the maternity ward. I have one case who was reported as vomiting after feeding at night. Further investigation revealed that the baby was also vomiting after feeding in the daytime. There was a special nurse in attendance at night only, with several student nurses on duty in the day, thus "too many hands spoil the broth".

CAUSES AND TREATMENT

- I. Disturbances in Feeding
 - 1. Too much food
 - 2. Too frequent food—occasionally too infrequent
 - 3. Aerophagy-Swallowing too much air
- II. Obstructive Lesions
 - 1. Esophageal
 - 2. Pyloric Stenosis
 - 3. Duodenal
 - 4. Ileo JeJunal
 - 5. Large Intestine
 - 6. Anal
 - 7. Umbilical Hernia
- I Disturbances in Feeding.

Too much food: The desire to prevent the newborn from losing weight we are disposed to give it artificial milk too soon after birth. Over loading the stomach or stuffing—the newborn will hardly tolerate. It is easily avoided by giving less food. Wait for the breast milk to appear unless there are contra-indications.

Too frequent food: It takes time to digest any kind of food, so with the baby we must allow a sufficient interval as it requires milk two to three hours before leaving the stomach—a period of rest for the stomach must be provided for. Once in a while we find too infrequent feedings, which will cause vomiting. An example of this is the working mother, particularly the servant class, who is nursing the baby. As a result the baby does not receive

Read before the South Carolina Medical Association, Myrtle Beach, S. C., May 18, 1938.

any food for six or eight hours. The Day Nursery when utilized will overcome this difficulty.

Swallowing of Air is common in all babies—some swallow more than others. Here I would like to emphasize the manner in which the baby is fed. The bottle should be held at an angle so that the liquid covers the entire neck of the bottle. Allow the baby to rest occasionally and let it belch once or twice during a feeding and always afterwards to get rid of the air which will in turn prevent vomiting.

Composition of the Formula may be faulty: The dilution is frequently wrong or milk may be too rich which is easy to correct in artificial feeding by removing more of the cream from the milk. The protein of cow's milk is sometimes difficult to digest. This can be alleviated by the proper dilution, else acidifying the milk. Other factors making it difficult to digest cow's milk are the bacterial contents. This sometimes acts as an allergen. There is no question in my mind but what we are feeding babies too concentrated feeding, also we are giving more foods too soon after birth, thus provoking vomiting and later allergic disturbances. Orange juice and milk are examples. When fed they should be given in minute quantities gradually increasing the contents.

II—Obstructive Lesions.

Esophageal*3: At times the embryo develops in such a way that the esophagus remains as an offshoot of the trachea, ending bluntly and does not connect with the gut. Food when taken even in a limited amount soon rolls back out of the mouth or may be aspirated ending in a terminal pneumonia. Operation is done when possible.

Pyloric Stenosis: The term Congenital Pyloric Stenosis is absolutely correct rather than the usual belief that this stenosis develops between the second and sixth week. There is invariably some evidence of obstruction from birth. The history is exceedingly important in these cases. If you question the parent or nurse closely you will usually learn that the baby has been spitting up since birth. It is a progressive phenomenon. The smooth muscle around the pylorus hypertrophies so that complete closure of the lumen occurs. Early operation is a procedure that should be con-

sidered. I am convinced that many cases are amenable to medical treatment. The cardinal signs of C. P. S. are, 1. Takes liquids greedily. 2. The "Golf Ball" tumor that moves from left upper quadrant across the midline to lower epigastric region. 3. Projectile vomiting. 4. Obstinate constipation and manifestations of dehydration.

The so-called Olive shaped mass is felt in the majority of the cases. I have felt the tumor and have seen a baby recover under medical treatment in two cases in the past year. My routine is to keep the baby quiet, under the influence of phenobarbital. Administer atropine in such proportions that the physiological effect is obtained. Give thick cereal feedings every four hours—repeating if necessary. If there does not seem to be improvement at the end of seventy-two hours then surgical consultation should be sought. Two cases are here cited.

October 13, 1937. Baby Boy C. A. P. Jr. Normal delivery. Second child—older sister in good health. Baby had been spitting up since birth but at age of two weeks began to vomit projectally. We used atropine, Phenobarbital and thick cereal feedings—a small amount was retained with occasional bowel movement with enema. When several days (4) of this treatment had been tried the baby showed no improvement and dehydration was becoming rather pronounced. As a definite mass could be felt operation was done at three weeks of age on October 13, 1937. Complete recovery was made and was discharged October 25, 1937.

August 2, 1937. Baby Boy. T. W. DeL. Baby had been normal in every respect except that he had continued to spit up after feedings with occasional vomiting. When four weeks of age he vomited projectally which continued. Mother had eaten a fried shrimp the day previously, however, the forceful vomiting continued after each feeding. Atropine, phenobarbital and thick cereal feedings were of no avail. Constipation was marked. Rammstedt Operation Aug. 3, 1937. Because the vomiting continued a second operation was done Aug. 5, 1937 to relieve the constriction—during which the operator opened the stomach and passed a catheter through the pylorus into the

duodenum. The baby had a very stormy time with fever, vomiting and constipation. The baby had Pneumonia (lobar) and bilateral Otitis Media in Feb., of this year (1938), making a complete recovery. He is having no gastro-intestinal disturbances (May 1938).

I wish sufficient time were permitted to discuss pre-operative and particularly post-operative treatments however, I wish to emphasize give the surgeon a fair chance by having the baby in good condition before operation and he will usually return the baby to you with an excellent chance of recovery. Something should be said regarding the soothing effect of X-ray on the pylorus both in stenosis and pyloro spasm. Certainly it does act in this manner and is worth trying before operation. It may be the barium or the X-ray*4, but I think it is both.

Duodenal Obstruction: The lesion is usually below the emptying of the common bile duct consequently we get practically the same symptoms as found in the pyloric stenosis except there is bile in the vomitus*5.

Sept. 19, 1935. Baby Girl D. B. Full term normal baby, 6 lbs. 7 1/2 ozs. Had a meconium stool immediately after birth. Spit up mucus four hours after birth. Placed to breast eight hours after birth and spit up brownish tinged mucus. Everything went along normally at breast and taking water until twenty-eight hours after birth when she began vomiting water, breast milk and Lactogen-did not vomit until it was given but this soon became projectile in type. Continued to have meconial stools. Atropine was used without beneficial effect. The character of the vomitus was yellow with some mucus. When 75 hours of age or third day, surgical consultation was asked. Operation was performed by surgeon when baby was 77 hours of age.

Findings: "Upper rectus incision. Transverse colon was found to contain a considerable amount of meconium but was not distended. The descending colon was moderately distended with gas. The splenic flexure could not be exposed. The gall bladder, duodenum and transverse colon were densely adherent one to another and the stomach was moderately distended. These adhesions were freed. The small gut was delivered, the stomach inspected and

found normal. The duodenum was traced to the point of its disappearance behind the mesentery vessels on the stomach side and all adhesions freed to this point. Its emergence from the retro-peritoneal space was then exposed and found to be covered with adhesions which were freed. The adhesions spoken of were all rather easily broken and gave the impression of being inflammatory. Peritoneum and muscle closed with continuous catgut. Fascia lacing catgut and interrupted with linen. Fat and skin interrupted with silk."

This baby had an uncomfortable experience for several days with almost continuous vomiting but an enema that night after the operation showed meconium tinged with blood. She retained 2 drams of water 20 hours after operation which was the first. Baby had much pain with belching of gas, some flatulence. First stool with particles of fecal material appeared on 9-24-35 or five days after birth and 2 full days after operation. Vomiting gradually subsided and baby went on to a normal recovery. The baby never showed marked icterus or anemia. Is now 2 years 8 months, in excellent health.

June 11, 1937. Baby Girl C. B. Wt. 6 lbs. 15 1/2 ozs. Vomited 3 hours after birth large amount of clear mucus. Cord bled and retied. Vomiting continued and soon in a projectile manner. Meconium stool 6 hours after birth which continued. Seen 12 hours after birth but this did not stop vomiting. Examination showed an apparently normal new born, except there was some jaundice and baby had a tendency to keep right leg flexed. Some tenderness in right quadrant. When gastric lavage was done 30 hours after birth which returned with much orange colored mucus. Immediately after it was sent to X-ray, 6-12-37. It vomited about one ounce of the barium 12 hours after its ingestion. The use of atropine sulphate and gastric lavage, the baby showed definite improvement. The vomiting became less with vomitus becoming clearer. Intraperitoneal transfusions of blood were given at 10 days or two weeks interval. This baby is eleven months old, doing well. Diagnosis: Partial Obstruction of Pylorus and Common Bile Duct with Icterus.

4. Jejuno—Ileum. Congenital bands are frequently found in the ileum and occasionally in the jejunum. Volvulus and intussusception especially involving Meckel's Diverticulum and the Ileo-cecal valvular region. Early appendicitis may occur. Intestinal blockage causes vomiting, tenesmus often with bloody tinge to stool and practically no fecal material is visible. Rectal examination should be made and early operation is necessary. There is a case reported*6 of meconium becoming so firm in the ileum that it caused intestinal obstruction and death.

Baby Boy. Born by Cesarean Section. Normal in every respect but vomited 3-14-36, nine hours after birth which continued after feedings and between. The abdomen became swollen. Nurse recorded a tarry stool on 3-15-36 and again that night. Vomiting became more projectile containing yellow particles. Operation 3-19-36, finding a peritonitis. Autopsy Report: "Congenital (?) Defect of Blood Vessels of middle third of small intestines with Mesenteric Thrombosis Paralytic Ileus and Acute Fibrino—Purulent Peritonitis."

- 5. Large Intestine: Faulty development such as partial or complete closure of the larger gut is not infrequently seen. Occasionally a congenital malignancy such as sarcoma or teratoma is reported. Vomiting is present and there is absence of fecal material though some meconium may pass. Operation and the devil take the hindmost is the usual result. Several cases*7 are on record of Atresia of the large intestine.
- 6. Anal Obstruction causes Vomiting. It may involve a considerable portion else there may be a small band that separates the anus and the sphincter in which case a repeated digital examination will cure the condition. There is frequently much abdominal distention. Surgery is needed unless it is a band as described above.

Umbilical Hernia: Occasionally one will meet with a definite umbilical hernia that presents itself so that diagnosis is easy. Such a case is described by Julius Jarcho*s that was cured by operation.

Last fall in consultation with two surgeons I saw a baby who presented a tremendous abdomen that was difficult to deliver. Aspira-

tion revealed a greenish brown mucilagenous material. The mass seemed to be everywhere in the abdomen as there was no outline. It vomited every thing it took which returned slightly bile stained. Operation was advised but the father felt as though it was going to die so he removed it previous to operation. Infant died two days later.

III. Infections

- 1. Enteral: A—Thrush. B—Sore Throat. C—Gastro Enteritis
- 2. Parenteral: Rhinitis, Otitis Media, Impetigo, Syphilis, Pneumonia, Meningitis, Etc.
- IV. Central Nervous System Disturbances
 - 1. Cerebral Palsy or Birth Traumas
 - 2. Meningitis
 - 3. Imbecility-Idiocy
 - 4. Anomalies like Encephaloceles-Hydrocephalus
- V. Gastro-Entero Spasm or Colic
 - A-Allergic
 - B-Non Allergic

III-Infections.

Enteral. A—Thrush. B—Sore throat. C—Gastro Enteritis. The least interference with breathing or swallowing might produce vomiting. Relieve the obstruction or treat the local area to correct the condition. Artifically fed babies will develop colon bacilli in the intestinal tract but the most common cause of vomiting is diarrhea from infection in the typhoid—dysentery group of organisms. Use pasteurized, boiled, dried or evaporated milk in preventing these diarrheas.

Parenteral, Rhinitis, Otitis Media, Impetigo, Syphilis, Pneumonia, Meningitis, etc. Time does not permit a discussion of the numerous diseases which might cause vomiting in the new born. Suffice it to say that a great many, particularly the head cold, impetigo and syphilis can be prevented.

IV—Central Nervous System Disturbances.

- 1. Cerebral Palsy or Birth Traumas are common. Here is a tremendous field for future research in order to determine the cause which if found will certainly reduce infant mortality. In the cases where the child survives it is often a burden to the family or ward of the State. Moro's sign is negative, the baby is usually rigid or spastic.
- 2. Meningitis, 3. Imbecility—Idiocy, 4. Anomalies like Encephaloceles Hydrocephalus. The vomiting in these cases occurs at

anytime rather than in association with feedings, in addition it is not accompanied with nausea. Early Lumbar Puncture is urged and treated according to findings.

V—Gastro—Entero Spasm or Colic.

There is a gastric contracture or a spasm of the intestines or both. Vomiting occurs but usually there is sufficient bowel movement to cause one to suspect that there is no intestinal blockage. Constipation frequently alternates with diarrhea. The causes are two fold. A—Allergic, B—Non Allergic. The experience of White*9 is that the non allergic group out numbers the allergic. The treatment of the former is to desensitize the feedings by correcting diets in mothers, or in artificially fed babies use acidified milk or one-half skimmed powdered milk. Atropine and phenobarbital and thick cereal feedings will usually suffice in the non allergic.

VI. Toxic Poisons

- 1. Toxic Substances from Eclampsia and late toxemias of pregnancy
- 2. Drugs

VII. Deficiency Diseases

- 1. Spasmophilia or Tetany
- 2. Rickets

VIII. Miscellaneous

- 1. Thymic Enlargement
- 2. Cardiac Enlargement or Disease
- 3. Atelectasis
- 4. Excitement
- 5. Rumination or Habit
- 6. Atony and Myotonia
- 7. Blood Dyscrasias.

A-Hemorrhage of the New Born

B-Congenital Icterus

VI—Toxic Poisons.

1. Toxic substances from eclampsia and late pregnancy. During eclampsias or late toxemias of pregnancy the infant frequently absorbs sufficient toxic elements to cause vomiting.

Drugs. Morphine and other drugs might cause vomiting. Keeping warm, plenty of water and off the breast for a few days will usually correct this condition.

VII—Deficiency Diseases.

1. Spasmophilia or Tetany is more common in the winter months. The calcium is frequently reduced showing an unbalance of the calcium ratio, else the parathyroid harmone may be diminished. The administration of Parathyroid Extract intranuscularly plus Dicalcium Phosphate will relieve this condition. I also advise the administration of Codliver oil in sufficient doses.

February 14, 1938. Baby Boy J. J. D. Full term, normal. Baby's cord had to be retied. He spit up and had crying attacks, quite nervous. Seen 6 hours after birth. Well developed baby who had a respiratory crow. Positive Chvostek and definite carpopedal spasm. Was given one-half cc Parathyroid Extract, intramuscularly. Signs of spasmophilia subsided but vomiting continued. Baby received Dicalcium Phosphate 15 grains every four hours and Codliver oil drops five B. I. D. Tongue clipped and Dorsal Slit 2-17-38. Spasmophilia had subsided but became more pronounced that evening so Parathyroid was repeated. Baby remained in hospital 8 days. Vomiting ceased and baby was seen recently 4-24-38 at the office doing splendidly.

2. Rickets: We were once taught that rickets did not appear until several weeks after birth, but now we know that it appears congenitally, when mother has Osteomalacia*10. Absence of the short Ultra Violet rays or deficiency of Vitamin D in food will cause rickets. Codliver oil is advised in pregnant mothers.

CAUSES VIII—Prematurity*11.

Vomiting is frequently a common occurence. In case of twins one will usually vomit. Keep warm, give plenty of good fresh air, sufficient calories and vitamins in their feedings. If this does not overcome the vomiting employ gastric lavage as I have found this very beneficial and Ultra Violet light is advised.

CAUSES IX-Miscellaneous.

- 1. Thymic Enlargement. Not so common, recognized by percussion, confirmed by X-ray and treated by X-ray.
- 2. Cardiac Enlargement or Disease Recognized by percussion and auscultation. Treated expectantly. Keeping warm and quiet.
- 3. Atelectasis, with collapse is not uncommon. An adept bronchoscopist is indispensable in treating these cases.
- 4. Excitement. Shaking, Rocking, Rolling, Vigorous handling and loud noices. Relieving the cause will suffice as treatment.
- 5. Rumination or Habit. Habit vomiting begins early. A thick cereal feeding and a seda-

tive may relieve the condition but often we resort to a method of making the jaws immobile by applying a rumination cap.

6. Atony and Myotonia. The lack of tonicity of the muscular system is quite prominent at times. The vomiting in these cases is usually non-projectile. It is my belief that this group could well be sub-divided under the Deficiency Diseases as when sufficient mineral salts and vitamins are added to the diet prompt response is made in the muscle tones.

Baby Boy A. G. B. Normal baby but vomited 6 hours after birth. The baby took water and feedings poorly. The mother developed Ulcerative Colitis 24 hours after the baby was delivered, becoming progressively worse so breast nursings was not attempted. He vomited after each feeding, the baby had one to three stools every day. He lost from 9 lbs 3 ozs. to 8 lbs. 14 ozs. in the first week which was a normal loss but there was little tendency for baby to take more than 2 ounces at a feeding. Was seen by me on the ninth day after birth. The baby impressed me as decidedly languid. The muscles everywhere were flabby, the tonicity of the muscles was poor. He was given Dicalcium Phosphate without improvement. Codliver oil was added, exercises and massage were instituted twice a day. When three weeks of age he had reached his birth weight after which time there was continuous improvement and vomiting ceased. Diagnosis: Atony and Myotonia.

7. Blood Dyscrasias. A—Hemorrhage of the new born is frequently accompanied by vomiting. Glass*12 reports a case of hemorrhage in the new born causing intestinal obstruction. Giving whole blood intramuscularly from the male parent may stop the hemorrhage. B—Icterus*13 of the new born is a common finding. The degree of jaundice varies and is a factor in determining the classification of the several varieties. Intraperitoneal or Intramuscular transfusions of blood is advisable in the most serious cases.

SUMMARY

It has been my purpose to review the causes

and treatment of vomiting in the new born as briefly as possible. There may have been some omissions and occasional repetitions but I trust this review will evoke a keener interest with better results in reducing our infant mortality especially when associated with vomiting of the newborn.

CONCLUSIONS

- 1. Nine chief causes for Congenital Vomiting have been enumerated and classified.
- 2. Several cases as examples have been cited. Treatments have been suggested, A—Medical when possible. B—Surgical when obstruction is definitely established.

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THE JOURNAL

OF THE

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MARCH, 1939

SOME HIGH SPOTS FOR THE SPARTANBURG MEETING APRIL 11, 12, 13

The April issue of the Journal will be a SPARTANBURG NUMBER but it is desirable to have available some advance information in this issue of the Journal. First of all the doctor and his wife must be comfortable to enjoy any medical meeting and the local committees have been working hard to assure the visiting physicians that this feature will be taken care of satisfactorily. The Cleveland Hotel will be the Headquarters of the Association and the Franklin Hotel will be Headquarters for the Woman's Auxiliary. In addition to these hotels the Gresham is recommended by the Hotel Committee and there will be still other available places to stay given in the final program.

The general idea of the Association meeting follows that of the highly successful plan introduced at Myrtle Beach last year. It will be noted that the House of Delegates will convene at 10 A. M. on Tuesday, April 11 and remain in session all day. On Tuesday evening a special program is under way to inform the members of the Association and the public about the recent trends toward socialization of medicine and the progress of governmental activities in the interest of the nation's health.

Perhaps one of the most outstanding speakers in America from every standpoint on any public health question is Dr. Arthur T. Mc-Cormack of Louisville, Health Commissioner of Kentucky. Dr. McCormack will be the principal speaker at this evening session. He is the retiring President of the American Public Health Association. He is the President Elect of the Southern Medical Association. He is the Secretary-Editor of the Kentucky State Medical Association. He is one of the senior members of the House of Delegates of the American Medical Association in point of service having been in the House thirty years or more.

In the round table discussions the Association will be honored by the leadership of a distinguished professor of medicine in one of the oldest medical schools in America, Dr. V. P. Sydenstricker of the Medical Department of the University of Georgia at Augusta. There will be other guest speakers,

The preliminary program published in this issue is merely a skeleton of the great program yet to come. The interest in this meeting has been very keen. It is expected that there will be an attendance of between four and five hundred. Reservations should be made at once in the hotels mentioned.

The entertainment features of the meet-

ing will be simple but impressive. They will center around the President's reception and ball on the evening of April 12. The Alumni luncheon of the Colleges will be a significant event as usual on Wednesday of the general session. The scientific exhibits are in preparation and it is anticipated they will be attractive and of distinct educational value. The commercial exhibits always come in for interesting comments. The spaces were sold out early.

DEATH OF DR. HARRY LEE SHAW

On February 18 the South Carolina Medical Association lost one of its most lovable members in the passing of Dr. Shaw of Sumter. The doctor graduated in medicine at the Medical College of the State of South Carolina in the class of 1891 and then began practice at Rodman, Chester County. autumn of 1893 he moved to Fountain Inn. Here he practiced his profession for 25 years, enlisting in 1918 and being commissioned as a captain in the Medical Corps of the United States Army. After a short period of training at Camp Greenleaf, Fort Oglethorpe, Georgia, he was transferred to the Base hospital at Camp Jackson, Columbia. After his discharge from the army he moved to Sumter in January, 1919, and practiced there until his death at the age of 73.

During his life he held many positions of honor. He was a member of the State Board of Medical Examiners for 11 years and in 1921 was elected President of the South Carolina Medical Association. Dr. Shaw was at one time President and also Secretary of the Sumter County Medical Society; Commander of the Sumter Post of the American Legion; President of the Sumter Kiwanis Club. He was a member of the Fort-nightly Club; a Director of the Sumter Y. M. C. A.; a Woodman and a Mason. He was a life-long member of the Presbyterian Church and a Ruling Elder.

Dr. Shaw attended the meetings of the State Medical Association regularly as long as his health permitted. His genial personality was an outstanding characteristic and he was the center of an admiring group of friends at any medical meeting. He was a general practi-

tioner of the highest type and will be sorely missed not only in official circles but by multitudes of friends in all walks of life.

ANNOUNCEMENT

A Sectional Meeting of the American College of Surgeons will be held in Baltimore, Maryland, with headquarters at the Lord Baltimore Hotel, on March 15, 16, and 17. The following states will participate: Maryland, Virginia, West Virginia, District of Columbia, New Jersey, Deleware, Pennsylvania, North Carolina, and South Carolina. The Committee on Local Arrangements, has made plans for an exceptionally interesting meeting.

A number of distinguished visiting surgeons from various part of the country will address the sessions. Some of these are, Dr. Howard C. Neffziger of San Francisco, President of the American College of Surgeons; Dr. George Crile of Cleveland, Chairman of the Board of Regents; Dr. Frank E. Adair of New York, Attending Surgeon, Memorial Hospital and Dr. J. Warren White of Greenville, Chief Surgeon, Shriner's Hospital for Crippled Children.

COMING EVENTS

Cicero said that the Egyptains and Chaldees were skilled in foretelling future happenings. We wish we had some such knowledge now with reference to what is going to happen to American Medicine. There has never been a time when the doctor and his activities had so much spotlight publicity in the public press as today. We are of course deeply concerned about the effect of the various bills now in Congress and in many State Legislatures bearing on the future practice of medicine in this country. Perhaps one of the most important single events was the introduction a few days ago of the long expected "Wagner Bill" now entitled—

S. 1620, A Bill to provide for the general welfare by enabling the several States to make more adequate provision for public health, prevention and control of disease, maternal and child health services, construction and maintenance of needed hospitals and health centers,

(Continued on page 80)

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. J. H. Cannon ABSTRACT NO. 374 (36643)

Student J. L. King, presenting. Admitted October 16, 1936. Died December 2, 1936.

History: The patient, a negro boy, age 14 years, was admitted with the complaint of "pain in chest". Present illness dated from about two months before, at which time, he was struck in the right chest by a plow handle. Soon afterwards a swelling appeared which involved the right chest wall and abdomen, was moderately tender and painful. Rapid downhill course characterized by mild fever, loss of weight, progressive weakness, dyspnea, dry painless cough only moderately productive of mucoid sputum.

Physical Examination: T. 99.4. P.96. R.?

A fairly well developed but emaciated negro boy of stated age, about 100 lbs. body weight, dyspneic and acutely ill. In the right chest wall anteriorly was a firm nodule about 4 cm in diameter overlying the 3rd costo-chondral junction. There was an apparent bulging of the interspaces of the lateral chest wall in the anterior axillary line from the 5th rib downward on the right and a firm indefinite mass in the upper abdomen in the hepatic region that extended below the level of the umbilicus on the right and was moderately tender to pressure associated with prominence of the right costal margin. A discrete firm nodule was felt in the right axilla. The posterior cervical and inguinal nodes were palpably enlarged but not firm. Expansion of the right chest was markedly limited, dull to percussion with tactile fremitus and breath sounds absent. The left chest was hyper-resonant to percussion and the breath sounds vesicular. The cardiac P. M. I. was felt in the 5th i. c. s. in the left anterior axillary line. Rate normal, rhythm regular, no murmurs heard. B. P. 120/80. Extremities not remarkable, reflexes physiological.

Laboratory: Urinalysis 11-17 and 23-36 revealed no significant findings. Blood: 10-17, Hb. 81%, WBC 9,000, Polys 75%, S. Lymph 25%; 10-22, Hb. 65% WBC 16,000, Polys 81%, S. Lymph. 15%, Mono. 4%; 11-30 Hb. 50%.

Glucose Tolerance: 11-19-36. Fasting—78 mgm%, 1/2 hour—109 mgm%, 1 hour—98 mgm%, 2 hour—?, 3 hour—104 mgm%.

Serology: 10-22-36. Wassermann—negative, Kline—negative. Tuberculin (10-29-36) negative.

Pleural Fluid: Amount—1200 cc. Character—Blood tinged. Cells—Lymphs. 85%. Eosinos. 15%. Smear, culture, and guinea pig inoculation with pleural fluid were all negative for tubercle bacilli.

Course: Temperature varied from subnormal to 101. Dyspnea was relieved by thoracentesis for a time but transient attacks of pain in right chest and back continued. There was progressive increase in size of nodule of anterior chest wall. Blood tinged fluid, in amounts varying from 700 to 1500 cc, was removed from the right pleural cavity on twelve different occasions. On 11-9-36 a right supraclavicular adenopathy was noted. There was progressive prominence of the superficial veins over the right side of the neck and over the lower abdominal quadrants. From 11-16-36, there began a progressive downward course characterized by orthopnea, unrelieved by thoracentesis, persistent cough, progressive left sided cardiac deplacement with a transient precordial systolic murmur and edema of the lower extremities. Patient expired December 2, 1936.

Dr. Cannon: (conducting) Mr. Brown, will you open the discussion?

Student Brown: In considering possibilities that might produce a blood tinged pleural effusion in this 14 yr. old boy I would first mention trauma. However without a history and with a slow onset it could probably be ruled out. Also it does not explain lymph gland enlargement and an abdominal mass. There is no history of tuberculosis. tuberculin reaction was negative as was examination of the sputum and guinea pig innoculation. Patient was also afebrile. In considering a malignancy, the diaphragm, liver, pleura and lung and chest wall are anatomically possible sites of its origin. The fact that fluid repeatedly accumulated after tapping and was blood stained together with lymph node enlargement and a rapid downhill course certainly seems suggestive. An osteogenic sarcoma occurs frequently in young people and while usually occurring in the lower extremities it might be primary in the rib or vertebral bodies with extension into the soft tissue. A myeloma might also be primary in the rib but is usually multiple and occurs in a later age group. Metastatic tumors might easily involve the chest wall and thyroid and prostate frequently cause secondary bone metastases.

Of the intrathoracic tumors that produce pain, cough and dyspnea, lymphosarcoma, Hodgkin's disease, and malignant thymoma are to be considered. The two former frequently occur in children and run a rapid course often with widespread metastases. They may easily invade the lung or pleura. A thymoma may similarly produce a large intrathoracic neoplasm with invasion of the lung, though it is apt to occur in somewhat older individuals and is

a rather unusual neoplasm. The pleural surfaces themselves may give rise to a mesothelioma (endothelioma) which is usually a diffusely infiltrating tumor and may be confined to the pleural surface, and as it advances in size it causes compression of the lung. Of the primary malignancies affecting the lung parenchyma itself a bronchogenic carcinoma may cause early involvement of the pleura with a hemorrhagic effusion. On the other hand it may lead to atelectasis due to bronchial occlusion. The diaphragm might be the primary site of a malignant skeletal muscle tumor or a rhabdomyosarcoma. The liver also might be the site of a primary malignancy which would produce a mass in the right upper quadrant. My final conclusion is that it is a malignancy and I could not rule out a tumor of the pleura.

Dr. Cannon: How about the kidney?

Student Brown: It is possible that the kidney was involved in a malignancy. Hypernephromas of the kidney notably give bone metastases. However two urine examinations were normal, but this does not rule it out.

Dr. Cannon: Mr. Herring, do you care to add anything?

Student Herring: I think there is little to add. Mr. Brown has discussed all the possibilities of trauma, infection and malignancy.

Dr. Cannon: What part does trauma play in the formation of neoplasms?

Student Herring: I do not think it of any importance and, as usual, in this case I think it only served to call the patient's attention to a pre existing condition.

Dr. Cannon: Mr. Lipman, do you care to comment?

Student Lipman: I think Hodgkin's disease deserves more consideration in view of the lymph node involvement with possible spread into the pleural cavity. It might be possible to rule this out by X-ray but not by the history or physical findings.

Dr. Cannon: How would you rule out the liver? Student Lipman: With an extensive destruction of liver tissue as caused by a primary carcinoma the glucose tolerance would be impaired. The test is not consistent with this. Also ascites due to an invasion of the portal vein by tumor or from peritoneal implants might also be present.

At this time Dr. Rudisill demonstrated a massive pleural effusion on the right side with displacement of the mediastinum to the left. Also a small tumor mass was demonstrated at the costo-phrenic junction.

Dr. Cannon: Does anyone else care to comment? It not Dr. Lynch will proceed.

Dr. Lynch: For the benefit of the visitors present, I might say that all the weekly conferences are similar to this. After the students have discussed the case, the staff members comment if they wish.

Our first opportunity of studying this case arose when we received an aspiration biopsy of some of the tissue in the pleural cavity. This showed a very undifferentiated type of malignant tumor, in fact from the small amount of material we could not even be sure that they were epithelial elements. Furthermore, at the autopsy, we were confronted with an extensive tumor process and did not progress much further with our diagnosis. The heart, the pericardium and the left lung were not involved. The right lung was collapsed and compressed posteriorly by a large mass infiltrating the diaphragm and the anterior pleural surface and crossing the mid line. The liver was not directly involved but was displaced downwardly. The esophagus and lung revealed no primary source of tumor. After conciderable microscopic study and pathological consultation we arrived at the diagnosis of a malignant myoma of the diaphragm or rhabdomyosarcoma. In regard to trauma, I do not believe it had any bearing on the patient's illness. It is very common to elicit a history of trauma in children in relation to tumors but usually it is the trauma that calls attention to a preexisting tumor or a previously unnoticed slight impairment of function. This is frequently exemplified by women dating the onset of breast tumor from a definite time of trauma when in reality they have existed unnoticed over a longer period of time.

At this time microscopic projection of the tumor was shown and Dr. Lynch pointed out masses of irregular neoplastic cells seperating the muscle bundles.

WOMAN'S AUXILIARY

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CALL TO CONVENTION

Dear Madam President:

The State Convention of the Woman's Auxiliary to the South Carolina Medical Association will convene at the Franklin Hotel, Spartanburg, April 11, 12, 13. The Spartanburg County Medical Auxiliary with Mrs. Jesse O. Willson as General Chairman, will act as hostesses.

For every twenty paid members or fraction thereof, each County Auxiliary is entitled to one delegate and one alternate, the alternate serving in the absence of the delegate.

Delegates should be elected and names sent to me right away in order that credential cards may reach you in time. Let us lend our efforts toward making this, the 14th Annual Convention, a fine one in every way.

Sincerely,
Mary Graydon Ariail
Mrs. C. C. Ariail, President
Woman's Aux. to the S. C.
Medical Association

PLANS FOR THE SOCIAL FUNCTIONS OF THE STATE CONVENTION OF THE WOMAN'S AUXILIARY TO THE S. C. MEDICAL ASSOCIATION

The Spartanburg County Auxiliary is already working out plans for the comfort and entertainment of those attending the Convention. Mrs. Jesse O. Willson, as General Chairman, has the following Chairmen serving under her:

Luncheon—Mrs. P. M. Temples.

Music-Mrs. I. S. Holliday.

Decoration-Mrs. Jas. R. Sparkman.

Entertainment-Mrs. Harry E. Heinitsh, Jr.

Registration-Mrs. J. C. Josey.

Transportation—Mrs. D. C. Alford.

Garden Tour-Mrs. P. A. Smith.

Hospitality-Mrs. W. P. Coan.

Tea Hostesses—Mrs. Sam Orr Black and Mrs. Harry Heinitsh, Jr.

A tea will be given at the home of Mrs. Sam Orr Black, Woodburn Hills, and a luncheon at the Country Club.

The Franklin Hotel will be headquarters for doctors' wives and the meeting will be held in the Ball Room of the Franklin Hotel.

OBSTETRICS AND GYNECOLOGY

J. D. GUESS, M.D., GREENVILLE, S. C.

ANNUAL MEETING OF THE SOUTH ATLANTIC ASSOCIATION OF OBSTE-TRICIANS AND GYNECOLOGISTS

South Carolina and Charleston were hosts to the South Atlantic Association of Obstetricians and Gynecologists assembled for its first annual meeting on February 10th and 11th. It's seventy-five members came from Virginia, North Carolina, South Carolina, Georgia and Florida and it's guests came from these states and from Baltimore, New York and Chicago. All doctors interested in obstetrics and gynecology were invited and quite a number responded.

The association was honored by the presence of Dr. George W. Kosmak, editor of the American Journal of Obstetrics and Gynecoloogy, Dr. Fred Adair, Professor of Obstetrics of The Medical School, the University of Chicago, and Chairman of the Committee of Maternal Welfare, Inc., Dr. Walter T. Dannreuther, Chairman of the American Board of Obstetrics and Gynecology, Dr. Edward A. Richardson, of the Johns Hopkins University Medical School, and Dr. Rudolph Holmes, the man who went to Germany and studied the original Fruberg twilight sleep technique and who then introduced it to America, a fact of which he says he soon came to be ashamed.

The scientific program was pitched on a very high plain. Dr. Richardson, by invitation, read a paper on The Surgical Management of Uterine Prolapse and Associated Benign Pathology. Dr. Kosmak also by invitation, discussed in a thought provoking manner the subject, "What Do We Mean by Conservatism in Obstetrics."

Among the interesting papers presented by members of the Association, perhaps the two most significant were those by Dr. E. C. Hamblin of Duke University and by Dr. W. T. Bradford of Charlotte. Dr. Hamblin reported on a series of carefully controlled clinical investigations of the effects of progesterone injected in the treatment of functional uterine

bleeding. He and his associates used large amounts of this substance in a series of cases and checked their results by a study of biopsies from the endometrium and the excretion of the metabolized end product in the urine. His conclusion was that progesterone injected parenterally is metabolized little if at all, and that its administration seems to reduce the production or the metabolism of that already being produced by the patient herself. Thus again has there been thrust an element of doubt into the minds of clinicians with regard to the effectiveness of an organotherapeutic substance, upon which much faith had been placed. Not only must the clinician be wary of the claims made by the manufacturers of these products, but also the reports of certain non-biased medical workers must not be accepted too fully before full compensatory investigation and report has been made by others equally skilled.

Dr. Bradford made a report of A Study of 577 Maternal Deaths from Toxemia of Pregnancy in North Carolina. He found in North Carolina as in other states in the Southeastern section of the country in which occur most of the deaths from toxemia of pregnancy, that the peak of the mortality rate was coincident with the coincident peak of the temperature and precipitation waves. This suggests that there is some causal relationship between serious toxemia and coincident high temperatures and great rainfall. His slides, showing graphs and tables were beautifully prepared and his thesis was interesting and thought arousing.

Dr. Richard Torpin, professor of obstetrics at the Medical School of the University of Georgia and one who is doing quite a great deal of original research and investigation read an interesting paper on *Pelvic Inlet Variation in 500 Colored Women* in which he described an original radiographic technique in studying the pelvis.

South Carolina's contribution to the pro-

gram was an interesting paper by Dr. John M. Flemming of Spartanburg on *Endometri-osis of the Round Ligament*, and a paper on the problems associated with posterior cephalic presentation by the writer.

This association has set its aim high and much of its activity will be decidedly altruistic. Although its membership is restricted to those who can meet rather severe professional requirements, still its scientific sessions are open to the profession generally, and it is hoped that South Carolina physicians who do the bulk of the obstetrical and gynecological practice will avail themselves of the opportunity of sitting in on the scientific meetings.

Dr. Robert E. Seibels of Columbia is president of the association and Dr. M. Pierce Rucker of Richmond was made president-elect. The next annual meeting will be held in Richmond.

INTERESTING CASE REPORTS FROM ROPER HOSPITAL

For some time a plan has been under way to present to the physicians of South Carolina case reports from the teaching hospital at the Medical College giving in detail the methods pursued in the wards there. It is hoped that this presentation may be of service to the busy doctor in his practice.—Editor.

CASE REPORTS

Dr. F. D. Austin, Jr., Roper Hospital

Case 1. 2nd Degree Burns of Skin Involving 1/7 of Body Area

A 27 year old colored female admitted to the hospital August 21, 1938. Two days previously she was burned over the right side of her face, the right arm, forearm, hand and both legs when a can of "tar" exploded. She was brought to the emergency room immediately and tannic acid ointment was applied, dry dressings were placed over the burned areas, and she was discharged to the clinic. However, pain was so severe she was forced to return for relief.

Physical Examination—Well developed and nourished colored female, obviously in severe pain. There were 2nd degree burns over right side of face, right arm, forearm, hand and both legs, covered with tannic acid ointment. No evidence of infection.

Treatment—She was taken to the operating room and under a general anesthetic (ether) the burned areas were cleaned by scrubbing with sterile green soap and water. All loose skin (including opened blebs) was removed with forceps and scissors and by scrubbing with dry gauze. Ether was then applied to the wounds in order to remove any excessive fatty material. 10% Tannic Acid Solution was then applied to the entire burned area. This was followed with applications of 10% Silver Ni-

trate Solution. All burned areas were then wrapped in sterile drawsheets and the patient was placed on sterile sheets (without any clothing) on a bed, under a light cradle, extending from the neck to the feet.

She was then observed closely and all blisters were opened daily and loose skin was removed. Gentian Violet (1% Aqueous Solution) was applied daily to skin edges and boric acid ointment to all raw areas as the crust came off. Fluids were forced by mouth. Boric acid ointment was applied constantly to lips and eyes. The patient was given a diet high in calories and vitamins.

Course in hospital was very satisfactory. The white blood count did not exceed 9,900 and urine was negative. Temperature reached 102°F on the 6th day—was normal on and after the 9th day. On the 25th day, the face, arm, forearm, and hand were completely healed and the legs nearly so. There was no necessity for skin grafting and the patient was discharg ed, remarkably improved, on the 26th day.

Discussion—Even though it is deemed unwise to "tan" burned areas two days old, it was considered best to do so in this case because the area was so extensive and, most important of all, there was no evidence of infection when the patient was admitted to the hospital.

Case 2. 2nd Degree Burns

A seven year old colored female was burned January 1, 1939 when clothes caught fire

while she was playing before an open fire. On On January 13, 1939 she was admitted to the hospital and prior to that time had had no treatment.

Physical Examination: Well developed and fairly well nourished colored female, with 2nd degree burns over right elbow and right side of trunk. There was 90° flexion of right forearm on right arm, evidently due to contracture of burned area. White blood count 10.300. Temperature, pulse and respiration slightly elevated.

Treatment: Continuous warm, normal saline dressings to burned areas. Acetylsalicylic acid, 3 grains p. r. n.—cod liver oil 10 c. c. b. i. d. Calcium lactate 10 grains t. i. d. Full diet. Fluids freely. Exercise of involved elbow daily.

Course: Burned area healed nicely and limitation of motion of right elbow became less marked daily. After 23 days she was dis-

charged from the hospital with boric acid ointment dressings covering the 2 remaining very small areas of granulation tissue, which had previously been cauterized with 25% Silver Nitrate.

Discussion: This burn was 13 days old and not at all suited for "tanning", there being too much danger of infection. Also, the beginning contracture of the right elbow had to be considered and was best treated with continuous wet dressings and exercise, the latter of which would have been impossible, had the area been "tanned".

Quite frequently, following an extensive 2nd or 3rd degree burn, regardless of the immediate treatment, one has to resort to skin grafts in order to promote satisfactory healing. In these cases, we find that deep pinch grafts, kept wet with normal saline under rubber sponges (for pressure) for 5 days, give the best results.

SOUTH CAROLINIANA

J. I. WARING, M.D., CHARLESTON, S. C.

AN EARLY PHARMACOLOGY EXPERI-MENT IN SOUTH CAROLINA(1)

J. HAMPTON HOCH, CHARLESTON, S. C.

The first record of an investigation in the field of pharmacology to be carried out in South Carolina (and as far as I know in this country) is found recorded in the Philosophical Transactions of the Royal Society(2). The report, which was prepared by a Captain Hall and communicated to the Royal Society by Sir Hans Sloane, is entitled "An Account of some experiments on the Effects of the Poison of the Rattle-Snake".

The first experiments, performed on May 10, 1720, with the assistance of "three or four gentlemen, and one Mr. Kidwell, a Surgeon", record the deaths of three dogs (in 15 seconds, within 2 hours, and in something over 3 hours, respectively) after successive bites of the same four-foot rattler. Mr. Kidwell's opinion of the second dog which he opened for examination was "that the Brain was more red and swoln

than any he had ever seen" and he said "that the Blood turned very black".

Four days later, on May 14, 1720, Captain Hall relates the death of two more dogs, one in a half minute and the second in four minutes, and one cat in something over an hour and a half; however, a hen survived two bites. About a week later a bull frog was killed by the snake within close to two minutes, and a chicken died three minutes after it was bit.

On mid-June, 1720, a blacksnake died in less than eight minutes after the rattler bit it. And on June 30 the rattler was provoked to bite itself and died in between eight and twelve minutes. The dead snake was fed to a hog without apparent effect on the hog.

On June 10, 1723 "Mr. Thomas Cooper, a Gentleman who practices Physic at Charles Town" provided a 3 1/2 foot rattlesnake and two 2 ounce portions of Venice-Treacle or Mithridate(3) to one of which he put a large quantity of Diaphoretic Antimony(4) in order

to test the efficacy of these antidotes. Unfortunately the first dog died about 30 seconds after it was bit, too soon to determine the effect of the plain mithridate. The second dog which received the preparation with antimony "soon grew very sick and strove to vomit" but it survived. However, a third dog, although very sick for two or three hours, recovered without the administration of any antidote.

- (1) Presented to the Medical History Club of Charleston, Nov. 10, 1938.
 - (2) Phil. Trans. Roy. Soc. 35:309-315 (1727).
- (3) This polypharmacal monstrosity which was "greatly used as a Cordial, an opiate, and a Sudorific" contained myrrh, saffran, agaric, ginger, cinnamon, spikenard, calamus, galbanum, long pepper, storax, mace, pepper, cubebs, acacia, fennel, gentian, cardomom, parsley seed, opium, anise, asarum. orris, valerian and numerous others made into an electuary with Canary wine and honey.
- (4) Potassium antimoniate, prepared by the combustion of antimony trisulphide with saltpetre.

PHARMACY AND THERAPEUTICS

BULLETIN NO. 4

Dear Doctor:

The subject of socialized medicine has been widely discussed during recent months. The American Pharmaceutical Association, at its last National Convention in Minneapolis during the month of August, went on record as not favoring any program that would not permit the patient to select his own physician and his own drug store. This seems to be true Americanism.

The Extension Committee does not attempt to predict what is going to be done, but we de believe changes are going to made that will permit more of our people to receive more medical aid at less cost. If we can judge by the activities of State and City Pharmaceutical Societies and of outstanding physicians themselves, doctors are going to be encouraged to write more prescriptions for official medicines. In this way you can, without legislation or social reforms, contribute to the greater happiness of many American people.

Professional pharmacists are now definitely convinced that they should have been more aggressive in years past in giving more publicity to official drugs. Since a pharmacist depends partly, at least, on the drugs he dispenses for his income, it seems now that he should have made more of an effort to better inform his physician concerning the U. S. P. and N. F. drugs. It seems to us that it is even more pro-

fessional for a pharmacist to discuss with you drugs of known reliability than it is for a salesman, representing a pharmaceutical manufacturer, to detail you on a proprietary that has not in many instances been council accepted. Supplements to the last edition of the Pharmacopoeia have been made legal. These supplements are issued each year, thus making the U. S. P. a modern and up to date book of official drugs, incorporating new preparations as soon as sufficient data have been obtained to warrant their official recognition.

On the enclosed cards you will find N. F. preparations containing 1% ephedrine. Similar preparations bearing a trade name have to sell for \$1.35 per ounce. Your pharmacist can prepare these nebulae and sell them for .95 per ounce, thus saving the patient .40, and the pharmacist's profit would be approximately doubled. At the same time, by writing a prescription, you are discouraging self medication and protecting your own profession.

It is, therefore, with the deepest conviction and sincerity that we are representing the best of our profession and yours, when we call your attention to official drugs in the U. S. P. and N. F.

Sincerely yours,
W. D. Strother, Chairman
U. S. P. and N. F.
Extension Committee
University of S. C.

Dr. Robt. Wilson, Jr.____Charleston

COLDS, RHINITIS, Preparation for: 4 NEBULA EPHEDRINAE, N. F. VI. (Ephedrine Spray) Rx. Metric Apothecary	Uses: In addition to the ephedrin mucous membranes this preparation stimulating and soothing value of gredients.	on possesses the
Ephedrine alkaloid0.30m. 4.5 gr.		
Methyl Salicylate0.06 1.0 minim. Light Liquid Petrolatum	COLDS, NOSE DROPS or SPR	AY for: 6
q. s. ad30.00cc. 1.0 fl. oz. This preparation contains 1% Ephedrine Uses: A spray or nebula for local application to	NEBULA MENTHOLIS CO N. F. VI.	MPOSITA,
the mucous membranes of the nostrils, shrinking	(Compound Menthol S	pray)
the congested mucosa in rhinitis and sinusitis.	Rx. Metric	Apothecary
COLDS, RHINITIS, Preparation for: 5	Menthol0.3 Gm.	4.5 gr.
NEBULA EPHEDRINAE COMPOSITA,	Camphor0.3 Gm.	4.5 gr.
N. F. VI.	Methyl Salicylate0.15 cc. Eucalyptol0.06 cc.	2.25 minims 1.0 minim
(Compound Spray of Ephedrine)	Light Liquid Petrolatum,	1.0 111111111
Rx. Metric Apothecary	q. s. ad30.00 cc.	1.0 fl. oz.
Ephedrine Alkaloid0.3 Gm. 4.5 gr. Camphor0.18 Gm. 3.0 gr.	Uses: A stimulating and soothing	
Menthol0.18 Gm. 3.0 gr.	over 11 stimulating und sooming	
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HOUSE OF DELEGATES THE CLEVELAND HOTEL

10 A. M. Tuesday, April 11, 1939

General order will be as follows:

Committee on Credentials will convene at 9:00 A. M. (Delegates should obtain credentials before leaving home)

Called to order by the President, Dr. J. R. Des Portes

Report of Committee on Credentials

Remarks by the President

Report of Secretary-Treasurer, Dr. E. A. Hines

Report of the Board of Councilors by Dr. T. A. Pitts, Chairman, Columbia

Report of the State Board of Health, Dr. F. M. Routh, Chairman, Columbia

Report of Committee on Scientific Work, Dr. P. M. Temples, Chairman, Spartanburg

Report of Committee on Public Policy and Legislation, Dr. J. McMahan, Chairman, Columbia

Report of Committee on Public Health and Instruction, Dr. Lee W. Milford, Chairman, Clemson College

Report of Committee on Medical Economics, Dr. John Buchanan, Jr., Chairman, Winnsboro

Report of Committee on Necrology, Dr. W. C. Mays, Fair Play

Report of Committee on Maternal Welfare. Dr. Robert E. Seibels, Chairman, Columbia

Report of Committee on Control of Cancer, Dr. F. E. Kredel, Chairman, Charleston

Report of Committee on Study and Control of Syphilis, Dr. James Edward Boone, Chairman, Columbia

Report of Committee on Public Relations, Dr. H. Grady Callison, Chairman, Columbia

Report of Committee on Degenerative Diseases, Dr. Hugh Smith, Chairman, Greenville

Report of Committee on Historical Medicine, Dr. J. I. Waring, Chairman, Charleston

Report of Committee on the Medical College of the State of South Carolina, Dr. L. M. Stokes, Chairman, Walterboro

Report of the Cancer Commission, Dr. K. M. Lynch, Chairman, Charleston

Report of Delegates to the American Medical Association, Dr. J. H. Cannon, Charleston and Dr. E. A. Hines, Seneca

Report of State Board of Medical Examiners, Dr.

A. E. Boozer, Secretary, Columbia

Report of Delegates to other State Societies

Introduction of New Business

Report of the Committee on Resolutions

Miscellaneous Business

Election of Officers

Adjournment

PRELIMINARY SCIENTIFIC PROGRAM GENERAL SESSION

Wednesday and Thursday, April 12, 13, 1939

Invocation

Official Greeting by the Mayor of the City of Spartanburg

Address of Welcome-Dr. J. T. Carter, President Spartanburg Medical Society

Response

President-Elect South Carolina Medical Association

PRESIDENT'S ADDRESS

By Dr. J. R. Des Portes, Fort Mill, S. C.

PAPERS

The following is a list of titles of papers to be rearranged on the final program. Reading Time of papers 15 Minutes—Discussion 5 Minutes.

You Can't Socialize a Doctors Mind

By Dr. Marion H. Wyman, Columbia, S. C. Shall We Be Leading Pioneers or Driven Slaves

By Dr. Carl B. Epps, Sumter, S. C.

A Review of Cesarean Sections in Greenville County

By Dr. R. M. Dacus, Jr., Greenville, S. C.

The Surgical Management of Pulmonary Tuberculous and Non-Tuberculous Chest Diseases

By Dr. Frank Philip Coleman, Columbia, S. C. Small Intestinal Diverticula

By Dr. A. E. Baker, Charleston, S. C.

Case Report—Spontaneous Osteomyelitis of Frontal Bone

By Dr. Norman O. Eaddy, Sumter, S. C. The use of Sulfanilyl—Sulfanilamide in the Treatment of Specific Urethritis and Urinary Infections

By Dr. Keitt Smith, Greenville, S. C. Cecostomy in the Treatment of Advanced Appendi-

citis with Rupture

By Dr. Wm. Prioleau, Charleston, S. C.

By Dr. Wm. Prioleau, Charleston, S. C. Hypothyroidism

By Dr. George R. Wilkinson, Greenville, S. C. Epilepsy and its Management

By Dr. Sol. B. McLendon, State Hospital, Columbia, S. C.

Vaginal Hysterectomy

By Dr. Irwin Grier Linton, Charleston, S. C.

ROUND TABLE CONFERENCES

Wednesday and Thursday, April 12, 13, 1939

Several more round table discussions will be provided for on the final program with additional invited guest speakers.

Deficiency Diseases

Conducted by Dr. V. P. Sydenstriker, Professor of Medicine, Medical Department University of Georgia, Augusta, Georgia

Roentgenology

Conducted by Dr. Wm. Sheridan, Spartanburg, S. C.

Surgery-Subject not announced

Conducted by Dr. Frederick E. Kredel, Professor of Surgery, Medical College of the State of South Carolina, Charleston, S. C.

Allergy

Conducted by Dr. F. M. Routh, Columbia, S. C. Obstetrics

Conducted by Dr. Robert E. Seibels, Columbia, S. C.

AN EFFECTIVE TREATMENT FOR TRICHOMONAS VAGINITIS

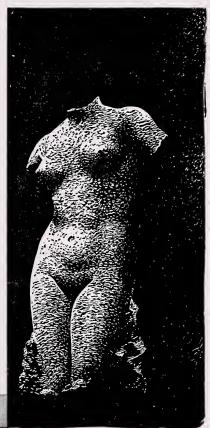
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SURGERY

WM. H. PRIOLEAU, M.D., F.A.C.S., CHARLESTON, S. C.

INJURIES TO THE RECURRENT LARYNGEAL NERVE

While the operation of subtotal thyroidectomy has been to a great extent standardized there still remain some controversial points such as type of anesthesia, the amount of gland to be left, kind of suture material, stage operations, and others of probably less importance. In the actual performance of the operation the factor of greatest importance is the protection of the recurrent laryngeal nerves. The usual method of accomplishing this has been of avoiding the nerve by keeping the operation within the capsule of the gland. The reason for this procedure is based upon the general impression that the dissection for identifying the nerve might in itself result in injury to it. In the hands of those experienced in surgery of the thyroid gland, the use of this procedure has resulted in reducing to a small number the incidence of injuries to the recurrent laryngeal nerve.

Lately Dr. Lahey of Boston (Ann. Surg. 108:545 (Oct) 1938) has advocated the technic which has just been mentioned as the one heretofore avoided. He states that the safest method of protecting the recurrent laryngeal nerve is by first dissecting it out, so that its position is known throughout the

resection of the thyroid gland. He states that with some practice this can be readily and safely done by those experienced in this type of surgery. The experience with this procedure at the Lahey Clinic has been most gratifying. In an editorial in the J. A. M. A. 111:1939 (Nov.) 1938, it is stated that "this experience has proved that the routine exposure of recurrent nerves in thyroid surgery will diminish, if not largely eliminate, injuries to this nerve."

Editor's Note: Though having had limited experience with the purposeful exposure of the recurrent larvngeal nerve for its protection, the editor is not convinced that further experience will prove this to be the desirable technic. Even though the possibility of injury due to dissection be disregarded, the protection afforded is practically limited to the region of the lower pole, as higher up, the nerve is closely adherent to the capsule of the gland, which itself is firmly attached to the larynxthis prevents its proper exposure in the region of its entrance into the larynx-a common site of injury. Almost certainly for the one who does only an occasional operation upon the thyroid gland, the safer method is to attempt to protect the nerve by avoiding placing traction upon it, and avoiding the application of forceps along its usual course.

COMING EVENTS

(Continued from page 69)

care of the sick, disability insurance, and training of personnel; to amend the Social Security Act; and for other purposes.

This Bill was referred to the Senate Committee on Education and Labor and a hearing has been asked for on behalf of the American Medical Association. The Journal of the American Medical Association as usual will keep

the profession fully informed about the progress of this Bill in the Congress as well as other Bills that may be introduced in the House or in the Senate looking toward the same end.

The South Carolina Medical Association Headquarters is in close touch with the whole situation and receives frequent information direct from the Director of the Bureau of Legal Medicine and Legislation of the A. M. A.

WELL NOURISHED BABIES ARE CONTENTED

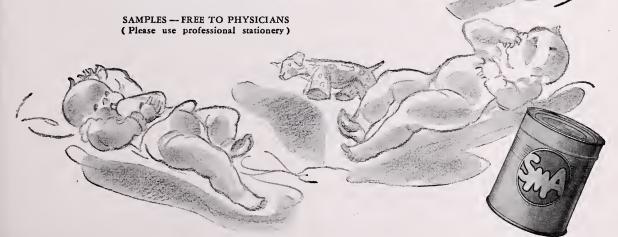
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REPORT OF CHESTER COUNTY MEDICAL SOCIETY

Dr. J. M. Northington, of Charlotte, North Carolina, Editor of the Tri-State Medical Journal, addressed the Phyiscians, Dentists, and Drugists, and their wives at a banquet held January 26 at the Carolina Inn, Chester, S. C. There were fifty present at the banquet including the guests, who, besides, Dr. Northington, were Dr. Archie Barron of Charlotte, N. C., and Dr. J. R. Des Portes of Fort Mill, S. C., President of the South Carolina Medical Association.

Dr. Northington chose as his subject "Medical Economics." He discussed the various plans of those advocating socialized medicine and showed very convincingly the fallacy of their arguments.

During 1938, the Chester County Society held regular monthly meetings, and at each meeting some member of the Society was responsible for the scientific program. programs have been very interesting and instructive.

At our February meeting unanimously adopted the program for giving medical care to clients of the Farm Security Administration as proposed by this Board. In this program, the Farm Administrator guarantees the payment of medical bills for its clients, and gives the client the privilege of selecting the physician who is to attend him.

Most of our meetings are well attended by the members of the Society, and we have been happy to have with us at most of the meetings, Dr. J. R. Des Portes of Fort Mill, President of the State Medical Association and Dr.

Roderick McDonald of Rock Hill, Councilor of the Fifth District.

> Respectfully submitted, John N. Gaston, Jr., Secretary-Treasurer, Chester County Medical Society

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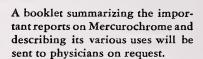
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South Carolina Medical Association

VOLUME XXXV

APRIL, 1939

Number 4

Eclampsia

LESTER A. WILSON, M. D., AND ARTHUR L. RIVERS, M. D., CHARLESTON, S. C.

Eclampsia as well as pre-eclampsia is essentially an acute type of illness. It is one of the major causes of maternal mortality in the United States, and has well been termed a "disease of theories." With the advent of more thorough prenatal care from the professional standpoint and widespread teaching among the laity concerning the pregnant patient it has been demonstrated that a large proportion of eclampsia can be prevented.

Although convulsions in connection with the pregnant woman were spoken of by Hipprocrates, few definite findings have been added to this particular field of medicine. Theories as to etiology of eclampsia are too numerous to enumerate and no one theory or group of theories has as yet been universally accepted. In a preliminary report in the American Journal of clinical pathology March, 1938-Patterson et al tell us "no complication of pregnancy that might be interpreted as eclampsia has been produced experimentally, and so far as is known this condition does not occur in animals. When the pathological changes which are found in human eclamptics are produced in pregnant animals, the pathological physiology underlying this disease may be determined."(14)

The incidence of eclampsia in the United States according to Dieckmann ranges from 0.6% to 7.2% and the mortality from 0 to 50% with the average maternal mortality being 13% (2). These statistics represent all

Read before the South Carolina Medical Association, Myrtle Beach, S. C., May 19, 1938.

types of care from entirely adequate to no prenatal care at all. A study of one thousand unselected cases in private practice by one of us showed that a mild form of toxemia occured in one of every 5 patients and that sixtytwo toxemias (6.2%) required induction because of their severity. In the group there was one case of eclampsia and no deaths from toxemia. In our clinic at Roper Hospital from 1931 through 1937 there were 3909 admissions to the obstetrical ward. Of this number there were 354 toxemias (9.0%). Of the toxemias 243 were non-convulsive (6.2%) and 111 were eclamptics (2.8%). We are considering as eclamptics those cases in which there was one or more convulsions—irrespective of whether they occurred antepartum, intrapartum, or postpartum. This report does not include cases with chronic nephritis as we believe that such cases should be aborted as soon as pregnancy is diagnosed. In the eclamptic group the number of convulsions varied from one to twenty, the average being four or five. The final outcome did not depend entirely on the number of convulsions, but cases receiving early treatment showed far better results than those in which there was a considerable lapse . of time between the first convulsion and instigation of treatment.

In some instances the amount the patient was disturbed or moved before treatment was available definitely added complications to an already too complicated picture. 80% of the eclamptics were colored; 70% of the cases were primipares. Ages varied from 14 to 38

years with over fifty per cent being under twenty; 5% over thirty and the remainder in the twenties. The maternal mortality was 8.2%. 73% of the deliveries were live births; 27% stillborn.

Of the nine cases that died, seven were in the hospital less than twenty-four hours. Five had come considerable distances after the first convulsion and had had subsequent convulsions on the way to the hospital. Six were primiparas. In no instance of the 9 deaths was a history of adequate prenatal care given. Seven of the nine had no prenatal care; two had inadequate prenatal care.

Of the nine deaths autopsies were obtained in four, the cause of death clinically and the pathological findings are briefly as follows:

1—R. Y. colored age 20—Died clinically from septicemia and lobular pneumonia with severe cystitis. Microscopic pathological report revealed bronchopneumonia, acute necrotic cystitis, suppurative pyelonephritis, eclamptic necrosis of the liver.

2—A. P. colored age 22—clinically bronchopneumonia superimposed upon eclampsia— Pathologically there was eclamptic necrosis of liver and kidneys; bronchopneumonia and pulmonary edema; arteriosclerosis of the spleen.

3—M. deL. colored age 20—clinically, shock was cause of death. Pathologically there was arteriolar necrosis in liver with portal hemorrhage and necrosis; toxic nephrosis with glomerular and tubular hemorrhage; and cortical hemorrhage and necrosis of suprarenals.

4—L. S. colored age 20—clinically pueperal sepsis; pneumonia superimposed upon eclampsia. Pathologically, focal necrosis of the liver; parenchymatous degeneration of the kidneys; lobular pneumonia and endometritis.

Each case demonstrated that pathologically the most striking lesion is in the liver but such lesions according to Karsner do not correspond in severity with clinical manifestations. (15) Most characteristic lesions were extensive fatty degeneration, hyperemia, hemorrhage and small areas of necrosis. Microscopically the areas of necrosis are in the periphery of the lobule and vary in extent. The kidneys show degeneration with foci of necrosis of the tubular epithelium. The heart may have myocardial degeneration. The central nervous

system may show areas of hemorrhage, necrosis and vascular thrombosis. Almost any organ may be the seat of hemorrhagic lesions in severer toxemias. Such findings certainly indicate some vascular disturbance, but it is debatable whether the lesions found are secondary to or the cause of eclampsia. Of the five cases on which autopsies could not be obtained the clinical cause of death was cardiac failure in two cases; pneumonia in one case, and shock in the other two. Some of the more outstanding sequelae are chronic nephritis, myocardial damage, varying grades of toxic psychoses and chronic pelvic infection. follow-up of such cases has shown that a large percentage die within five years.

In emphasizing the value of intelligent prenatal care-what are the salient points to ascertain in preventing eclampsia? First of all the amount of weight gained is important-Not only the total gain but the manner in which it is gained. Normally the total gain should be from 15 to 25 pounds with an average of twenty. All patients remain normal or lose the first trimester then gain from 1/2 to 1 lb. per week until the last two weeks. Any marked gain over a pound per week should be a warning for extra care. Next is the blood pressure (especially the diastolic pressure) which is an invaluable indication for proper preventive treatment; a sudden rise over previous readings demands investigation. Routine urinalyses are also important and cases showing increases in weight and blood pressure must have "stat" urinalyses even though no other symptoms or signs are present. Some of the larger clinics such as the Boston Lying-In Hospital have standing orders that any patient whose systolic blood pressure has abruptly risen to 140mm Hg must be admitted for complete study and termination of the pregnancy if the study indicates such treatment. By the time headaches, spots before the eyes, epigastric pain, varying amounts of edema and drowsiness appear the picture is usually so typical as to make diagnosis easy. Kellogg has said "when a toxemic crosses the convulsive line on the diagram her chances of dying jump from 2.5% to 25%."(1) In the majority of cases the diagnosis of eclampsia is rather clear cut but it must be borne in mind that uremia, epilepsy, diabetic

coma, and brain tumors have been mistaken for eclampsia. Less frequently acute yellow atrophy of the liver and hysteria enter the picture. Whatever the differential diagnosis may be, the earlier eclampsia is diagnosed and treatment begun the better the prognosis.

After the appearance of convulsions what is the proper treatment? In reviewing the literature one finds many forms of treatment. However no one treatment has been universally accepted. In 1909 Stroganoff emphasized conservatism but as early as 1790 Caesarian section was advocated. The mortality of Caesarian section in eclampsia is reported as high as 47%. Between these two extremes the pendulum has swung, and today it is again at conservatism.

In treating eclampsia we try to do three things: first, administer symptomatic treatment, second, prevent sequelae, third, deliver the patient. In attempting to control convulsions, the patient must be kept as quiet as possible and constantly watched. Morphine gr 1/4 to 1/2 is given in 2cc of 50% magnesium sulphate intramuscularly immediately after the diagnosis is made. The initial dose of morphine varies with the size of the patient. 20cc of 10% magnesium sulphate is given intravenously every six to eight hours. Some prefer Sodium luminal gr iii intramuscularly with or without other barbiturates after the initial dose of morphine. It is wisest not to push any one sedative. We do not give magnesium sulphate more frequently than every six hours hours because it apparantly causes too depressing an effect especially on sensory elements of the nervous system. Glucose solutions such as 300 cc 25% in sterile water are given for the first dose and 500 cc of 5% to 10% every six hours thereafter. The glucose combats shock, has a diuretic action, dilutes whatever poisons may present and is said to have dehydrating effect on the central nervous system. During convulsions all types of inhalation anesthetics have been discarded especially chloroform—first because during the periods of apnoea the spasmodic movements of the diaphragm probably prevents inhalation until after the convulsion is over, and second the chloroform tends to cause liver damage. As soon as the patient

has responded to sedation and the convulsions are controlled, delivery of the patient is contemplated and two oz. of castor oil is given by mouth followed by a thoroughly aseptic vaginal examination, at which time the membranes are stripped from the cervical os if possible and ruptured manually. After rupturing the membranes, as much amniotic fluid as possible is allowed to escape by displacing the head from the pelvic outlet. This not only stimulates labor but appears to lessen the likelihood of subsequent convulsions. A hot saline enema at this point gives an extra stimulus to labor. The patient is allowed to deliver spontaneously without an anesthetic if possible. In cases in which the head remains on the perineum and convulsions are being excited by the pains, it may be advisable to use low forceps to shorten the labor. In using forceps the perineum may be infiltrated with 1% novocaine and in cases requiring a general anesthetic we prefer nitrous oxide oxygen or ethylene. Cyclopropane is used with excellent results in many clinics. As mentioned above, Caesarian section has no place in the treatment of eclampsia per se.

In preventing sequelae rigid asepsis must be constantly followed in all examinations and treatments and the periodic instillation of some antiseptic solution into the vagina as 1% acriflavin in glycerin, hexylresorcinol, mecurochrome 4%, every three or four hours from the time of the first examination until delivery, helps to prevent the annoying low grade infections. Very ill patients with rapid weak pulse, even though there is no definite cardiac break, need stimulation, and digifolin or digalin in doses of one to two ampoules every four hours is definitely helpful. If there is anemia present one or more transfusions not only combat the anemia but will help to combat infections as well.

In conclusion:-

1—The incidence of eclampsia is practically nil when adequate and intelligent prenatal care is followed. In this study where adequate prenatal care was given the incidence was 0.1% against 2.8% where prenatal care was deficient.

2—The maternal mortality varied from 0 to 8.2%.

3—Termination of labor in toxemias that do not rapidly improve with careful treatment definitely lowers the incidence of eclampsia and its consequences.

4—When eclampsia does occur conservative treatment is by far the most satisfactory and lessens morbidity and mortality.

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DISCUSSION

Dr. J. D. Guess, Greenville:

Analysis of methods and results are interesting to others and is essential to the individual if he is to improve the character of his work. Too few such analyses are reported from South Carolina doctors and institutions. This fact adds significance to this report from the Department of Obstetrics of Roper Hospital, staffed and controlled by that department of the State Medical College. It may be added that it is a report of results of which one may well be proud. Nine maternal deaths in a series of 111 cases of eclampsia, yielding an uncorrected mortality of 8.2 per cent, is a record close to the best and far better than the average.

One can not accept too literally the statement in the conclusion of the paper that "The incidence of eclampsia is nil when adequate and intelligent prenatal care is followed." This was not quite true

in the series of 1000 private cases reported, in which one patient developed eclamptic convulsions. However, it approximates the truth, and only rarely will a sudden and unheralded seizure of eclampsia occur. In my own private practice, in cases that have been consistently under my care for several weeks or longer I have not had convulsions to occur in a single case in over ten years. However, in our prenatal clinics in Greenville our record is not so good, and yet these patients receive what would be judged from many standards rather adequate prenatal care. What makes the difference? There are several factors. Clinic patients as a rule are less intelligent and less learned and do not understand so readily instruction given them with regard to diet, elimination, rest, et cetera. Even though they understand, they are frequently unable to do as told. They are less alert to recognize subjective and objective signs of impending trouble, and are slower to report them. On the other hand because of limited beds and limited income we are slower to admit these patients to hospital than we would be in case of private patients. An effort is made to treat them at home considerably longer than is generally wise. Finally they are not seen and examined so frequently as most of us do our private patients.

The statistics from the Greenville General Hospital for the years 1932-1937 are shown in these charts (No. 1 and 2).

Regardless of theories, one fact is certain. Eclampsia is a disease of pregnancy, and limited to pregnant women. Its cause is pregnancy, whether it be the result of a disturbance of metabolism, an endocrine imbalance, a toxemia resulting from absorption of fetal products, or one resulting from disordered liver function. It ultimately goes back to the state of pregnancy. Its ultimate prophylaxis would be the avoidance of pregnancy, its more immediate prophylaxis the termination of pregnancy. Because these facts are true, I do not hesitate to terminate pregnancy promptly in pre- or probable impending eclampsia if the baby is definitely viable. To my mind it is as important as are the other measures of treatment. The same would be true of the treatment of eclampsia except that the woman with eclampsia is too ill to allow termination by any method without adding an all too likely fatal load to an organism already too severely damaged. In eclampsia the disease should first be treated and controlled at least to the extent of stopping the convulsions before it is safe to initiate labor by any method. (Chart No. 3.)

This brings up a matter that the reader did not stress and which is all too often omitted for matters of seemingly greater importance. I refer to the reason for being of prenatal care. What is prenatal care? I prefer to use the term prenatal medical care, for so it should be, with treatment the logical sequel of observation. It is of little value to weigh and to analyze urine and to record blood pressure, if intelligent medical interpretation of the findings is

not done, and if intelligent medical treatment is not instituted when the existence of toxemia, whether mild or severe, is indicated. You say such a comment is unnecessary? It is all too necessary. We have patients and relatively many of them, whose pressure has been up for days or weeks, who have had edema and headaches and albuminuria, but who have been carried along on a morning dose

of salts and some restriction of diet while the days pass, days, every one of which increase the immediate and the remote jeopardy to the mother and to the baby. That is not intelligent medical care and a nurse could treat as well or better.

I have heard this paper with interest, and I hope that it will prove to be the first of subsequent reports from the school which all of us call ours.

		CITA	RT I		m
Roper	No. Cases 3909	Toxemia 9 %	Pre- eclampsia 6.2%	2.8%	Cases tre
Gnville Roper Gnville	W	8.8% Thites 20% 66%	5.1 % Colored 80 % 34 %	3.7% Mortality 8.2% 15 %	Deaths Mortality Cases tree Deaths Mortality
	Perio 1900-19		1	CH. Mortality 25-35%	ART III Therapeutic (1) Deliver (2) Elimin

1910-1925

1925-1935

CHART II	
Total No. cases treated	73
No. deaths	11
Mortality	15%
Cases treated conservatively	
Deaths	9
Mortality13	1/4%
Cases treated by Section	
Deaths	2
Mortality	40%

Therapeutic Principles in order of importance.

2	5-35% (1) (2) (3)	Delivery (Accouchement force) Elimination Sedation
1	5-25% (1) (2) (3)	Delivery
	5-15% (1) (2)	

(3) Delivery

The Newer Physiology of Diabetes Mellitus

S. C. Werch, M. Sc., M. D., D. G. O. (Dubl.) Department of Pharmacology, Medical College of the State of South Carolina

The modern conception of the physiology of Diabetes Mellitus is a good example of attainment brought about by careful, progressive, scientific persuit. Similarly, it is a good example of how different branches of medical science contribute to the structure of present-day knowledge.

Let us consider for a small bit the development since 1900, which has lead to the modern conception of the disease.

For convenience, this development may be considered in three stages. The first, extending up until the discovery of insulin, may be said

Read before the Medical Society of South Carolina, Charleston, S. C., February 14, 1939.

to be the period of dietetic management. It was soon seen that the disease was associated with a derangement of carbohydrate metabolism, and the treatment accordingly aimed at reduction of carbohydrate intake. Fat was increased to make up for lack of carbohydrate. How patients fared under such management is well known. Those present who are older know better than we who are younger the limitations of this treatment. Even those who suffered from mild diabetes, adhering to this so-called starvation diet under the most rigid application of such measures, lived only a short while. An early response with diminished glycosuria was noticed, but soon ketone bodies

due to associated alteration in fat metabolism, as well as sugar, were excreted again, and the sequence of coma and death was the usual ending. Severe cases did not respond even from the beginning. Not being able to utilize the glucose converted from the protein of the food, the severe case showed no response whatever. Juvenile patients rarely reached the third decade of life, and adults had little hope beyond a few years of a desperate existence. Very few patients were improved, the rest fought a losing battle.

With the discovery of insulin by Banting and Best, and the purification of the crude extract by Collip¹, real hope was brought to sufferers from this disease. The introduction of insulin instigated the second stage of progress. By 1930 there developed considerable understanding in the use of the product, and advances were made in its purification. The life-span of even severe cases increased, and unless there was neglect either on the part of the physician or the patient, the sequence of coma and death became more rare, and paients began to live fairly normal lives.

The third stage in the unfolding may be said to have begun with the present decade, and may be dealt with under the following headings: the newer forms of insulin; the change in attitude regarding dietary management; and the basis for a newer therapy suggested by research showing a relationship between the hypophysis and carbohydrate metabolism. The last should be given more attention, and thus I shall deal briefly with the former. The newer forms of insulin, resulting mainly from the work of Danish workers headed by Hagedorn, include protamine² and zinc protamine insulin3. These products permit slower absorption and prolonged effect, and consequently it has been found necessary to reduce the dose in many instances. Successful absorption of insulin preparations from the stomach4 and intestinal loop⁵ may be also mentioned here. Present-day dietary management is associated with a tendency to increase both the carbohydrate and the fat portions of the diet, as well as the caloric value. It is claimed that the low-carbohydrate, high-fat diets which have been used increased the blood lipoids, for the lipemia is obviously augmented in diabetic

states. Increase in the carbohydrate portion of the diet, according to Rabinowitch, stimulates the islet tissue of the pancrease. Marsh and Waller, as well as Rabinowitch, have shown clinically that such diets actually cause a decrease in lipemia. Furthermore, a greater variety of foods may be given, so that the diet approaching normal is much more satisfying. Low-carbohydrate diets are still of value in mild cases, and with precaution insulin is often unnecessary.

Physiological investigations showing the relationship between the hypophysis and carbohydrate metabolism were begun in the last decade, but a relationship was suspected before 1910. Physiology has without doubt played an important role in furthering this concept, but clinical medicine and pathology have also contributed.

Borchardt and Cushing were the clinicians who were first to deal well with this problem. Cushing got his lead from an analysis of acromegaly. This study was carried out in the period between 1900 and 1910, and permitted at least two important conclusions: first, that acromegaly is associated with acidophilic adenomas of the anterior lobe of the hypophysis; and second, that hyperglycemia and glycosuria were recurring findings. Today, the frequent occurrence of diabetes in cases of acromegaly is acknowledged. Borchardt, as early as 1908, in the Zeit, f. Klin. Med., wrote of the relationship of the pituitary to diabetes mellitus.

Pathologists too, directed their attention to organs other than the pancreas. Post-mortem examination of the pancreas from patients who, during life, were known to have had even severe manifestations of diabetes mellitus, did not always show demonstrable changes. Careful gross and microscopic study elicited no characteristic changes. Why then diabetes mellitus in these cases?

It was Houssay⁹ who was able to utilize this information and to devise experiments showing the relationship of the pituitary to carbohydrate metabolism. Houssay's experiment, which is now considered classical, dealt with the completely depancreatized and hypophysictomized dog. The greatest achievement of this work is the establishment of proof that

the cardinal symptoms of pancreatic diabetes can be ameliorated when the hypophysis is removed from the totally depancreatized animal. Houssay and his co-workers also showed that such animals were sensitive to insulin, for small doses caused hypoglycemic states. Diabetes-like states in animals were also produced in Houssay's laboratory by the use of anterior pituitary preparations over only a few days.

The essential findings in the "Houssay" animals, which have been summerized by Russell'o, show how these animals resemble the state of mild diabetes frequently dealt with clinically:—

"Blood glucose levels are normal or only moderately high, and glucose excreted is much less than in simply departreatized animals; there is almost complete absence of ketonuria; survival of these animals is much prolonged as compared to that of completely depancreatized animals, possibly because of the absence of ketosis; glucose tolerance curves may be nearly normal or more diabetic (in many cases there is disposal of considerable carbohydrate and always retention of much derived glucose, as indicated by a uniformly low D/N ratio); urinary nitrogen is less than in depancreatized animals on the same diet or when fasted: some animals show a rise in the respiratory quotient after carbohydrate feeding (the respiratory quotient of isolated muscle is also more nearly normal in Houssay's than in depancreatized animals); glycogen has been found in the livers of Houssay's dogs in almost normal amounts: hypoglycemic episodes are frequent, especially during fasting; reproduction of diabetes by anterior lobe treatment is easy."

The work of Houssay and his collaborators indicates the presence of a blood-sugar-raising factor in the secretion of the pituitary gland. With this in mind attempts have been made to extract this factor from the gland. Among those who have followed this research the work of Young' may be said to be more important. Using the anterior lobe of the gland from Oxen, he has been able to extract fairly pure preparations, which have been designated as "glycotropic" and "diabetogenic." These extracts appear to influence the physiology of glucose in the liver and the blood stream.

Extracts capable of raising the blood-sugar

have also been prepared from the blood and the urine. For example, Anselmino and Hoffman12 in studies on a product from blood serum indicate that the properties of their yield are similar to the properties of extracts from the hypophysis itself. Properties of like nature have been exhibited by extracts from urine. In this respect the work of Doisy13, Harrow14, and Werch¹⁵ may be mentioned. Werch and Altshuler16 evaluating extracts from the urine of diabetic and non-diabetic patients conclude that a blood-sugar-raising substance is found in the urines of severe diabetic patients, and may be found to a lesser degree in the urines of mild diabetic patients; and in non-diabetic urine it is found, if at all, in small quantities. Extracts from the urine of pregnant and lactating women have been shown by Werch to have blood-sugarraising properties also.

Attention, however, has again returned to the pituitary gland. This has been brought about by the work of Riddle and Bates17 with their preparation of the anterior lobe which they call prolactin. It appears that this preparation in addition to being able to stimulate lactation also has the popular diabetogenic or bloodsugar-raising property. The men just mentioned contend that clear evidence has accumulated demonstration that prolactin "exercises a pronounced diabetogenic action in normal and suitably operated birds and mammals." They say also that "unless or until a diabetogenic fraction free from prolactin can be obtained from the anterior lobe, or unless the adrenotropic hormone is later proved to have or share this property, there is no reason to assign this property to any other hormone than prolactin."

Work with extracts from various sources will very likely go on for some time before striking conclusions can be made, but already attractive interpretations may be indulged in. One may now interpret (1) cases of diabetes mellitus which are resistant to insulin, and (2) those in which post-mortem examinations of the pancreas is negative, and (3) cases of pregnancy which transient glycosuria. Increased activity of that portion of the anterior lobe of the hypophysis delegated to carbohydrate metabolism will explain resistance and those cases which come to the pathologist

with a normal pancreas. Pregnancy has long been known to be associated with hyperplasia and hypertrophy of the anterior lobe of the hypophysis, and thus a temporary increase in function of the gland is perhaps the explanation for the transient glycosurias observed. In other words, this condition, sometimes explained as being due to temporary lowering of the renal threshold, might also be caused by an increase in production of the diabetogenic factor of the anterior lobe of the pituitary¹⁵.

Our present-day conception of the etiology of diabetes mellitus includes not only the hypophysis but also the influence of the various endocrine glands. For example, the effect of the suprarenal gland has been studied by adrenalectomy on the depancreatized cat by Long¹⁸; and the importance of endocrine balance, endocrine inter-relationship, may be inferred from the experiments of Lukens¹⁹ and Collip, Selye and Neufild²⁰, and Greeley²¹.

The new method of treatment which may arise may direct itself against the hypophysis, particularly the diabetogenic factor or one which is contrainsulin in function. Attempts to produce an antihormone have so far given negative results²². However, work dealing with the fractionation of diabetogenic extracts²³ shows promise, and may prove fruitful.

The complete treatment of diabetes mellitus still awaits the results of fundamental research.

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Removal of Sebaceous Cysts

By Arthur E. Shaw, M. D., Columbia, S. C.

Sebaceous cysts may be removed:

First—By surgery

Second—By X-ray

Third—By chemical cautery method

The last named has given me the best results. First, locate the duct leading to the cyst. This may be seen sometimes without the aid of a magnifying glass. If this fails to locate the duct, use the point of a sharp knife and nick into the sac, then the sebaceous material may be expressed. This leaves an adherent sac. To remove this the opening of the duct

is dilated with a sharp pointed stick of silver nitrate, then with a rotary motion the sac is cauterized, and in a week or ten days time the sac should disintegrate and be expressed, leaving only a small scar and the skin intact.

If the cyst be over the average size, it will take several applications of the cauterant. A slower but effective method is by appropriate doses of X-ray which causes disintegration of the capsule of the cyst. A small opening may be made in the skin. Later the sac and its contents may be removed at one sitting.



THE BUILDING PROJECT OF THE MEDICAL COLLEGE AT CHARLESTON By J. van de Erve, M. D., Chairman Building Committee, Charleston, S. C.

The cut shown herewith is a view from the northwest corner i. e. at the intersection of Mill and Lucas Streets.

Because of the foreshortening on Mill Street and the fact that the largest building along our east lot line is not pictured at all in this cut, it does not begin to do justice to the really extensive construction planned.

Only elevations looked at from all the boundry lines, combined with airplane photographs of the structure as it will be when completed, would convey an ade-

quate conception of the appealingly attractive and symmetrical and efficient plant that will house the fast developing departments of the Medical College.

The quite recently erected library and pathology building, called "A" on Calhoun and Lucas Streets, will be joined by a so-called tower "F" with the old main building "B"; this in turn, at its north end by another tower "G" with the

"C" will be continuous with the present physiology and pharmacology building new clinical building "C" on the corner of Mill and Lucas Streets.

(Continued on page 111)



Dr. J. R. Des Portes, President, S. C. Medical Association 1938-39, Fort Mill, South Carolina



Dr. Douglas Jennings, President-Elect, S. C. Medical Association, Bennettsville, South Carolina

- Spartanburg, South Carolina -

By Mr. Floyd F. Kay, Secretary Chamber of Commerce, Spartanburg, S. C.

Spartanburg's medical, civic and business groups extend a cordial welcome to the delegates and guests of the South Carolina Medical Association and Auxiliary with the sincere desire that this meeting will be one of the best in the history of the organization.



Cleveland Hotel

The doctors visiting Spartanburg for the convention, April 11, 12, and 13, will have an opportunity to inspect not only the facilities provided by the City of Spartanburg, but those in existence for the care of patients throughout the entire County. One particular

department for the care of tuberculosis patients is obtaining results gratifying to those directly in charge. This department cares not only for white patients but for the negroes as well. Every citizen of Spartanburg County has access to medical treatment rendered, in many cases, by unselfish members of the profession who give their time and efforts as a community service with no hope of financial remuneration.

During 1939 particular emphasis will be placed on public education to the end that

social diseases will be more nearly controlled. Many business organizations and service clubs are taking particular interest in this work. That the backing of these groups is of importance may be shown through the results members of the Kiwanis Club's Crippled Childrens Committee are obtaining in their work conducted under the direction and with the cooperation of members of the medical profession. The Lions Club, too, is providing glasses and treatments for persons whose eyesight is impaired and obtaining the cooperation of doctors where operations are needed to save the sight of a particular person.

The Spartanburg Chapter of the Association is hopeful that the visiting doctors in inspecting the medical facilities of the community will make suggestions that will improve health conditions in this County.

The committees in charge of the convention urge that every reader of The Journal of the South Carolina Medical Association make plans immediately to be present at the meeting and enjoy a visit in Spartanburg. "The Hub City of the Southeast"—a number of whose assets are described in this article.

Spartanburg is located in the Piedmont Sec-



Spartanburg General Hospital

tion of northwestern South Carolina within sight of the lofty peaks of the Blue Ridge Mountains. It is a modern, progressive city of

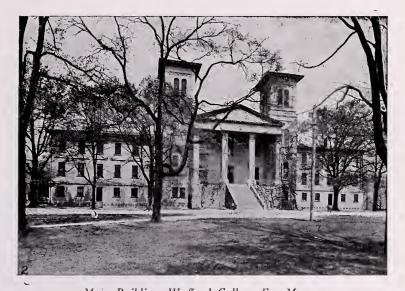


Mary Black Clinic

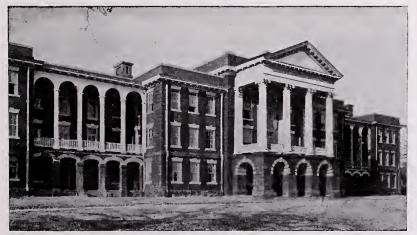
the New South--the South which still retains the romance, charm and culture that for generations has been natural to its people. Spartanburg, with 33,000 people in its city limits and 35.000 adjacent to its boundaries, is a city of great industries, distributing houses, railroads, automobiles and airplanes, but it is a city also of great colleges, schools and churches; a city of homes with modern paved streets, tree-shaded and inviting; it is yet a city of commerce and one which for more than a hundred years has fostered the cultural advancement of its citizens.

HEALTH

Spartanburg, at an elevation of 875 feet, is naturally a healthful city enjoying a year-round climate that is both mild and bracing. The average winter temperature is 44.5° and the average summer temperature is 79.7° Here is an abundance of pure, soft water, rated by engineers as being particularly fine for domestic and industrial use. The General Hospital and the Mary Black Clinic provide hospitalization for all classes of patients. A modern, well-organized County Health Department is in full operation.



Main Building, Wofford College For Men



Cedar Spring Institute—State School For the Deaf and the Blind

EDUCATIONAL FACILITIES

As an educational center Spartanburg is recognized throughout the South for its schools and colleges. Converse College for girls specializes in the teaching of the cultural arts. This college is the gathering place of musical education and music appreciation groups. Its auditorium, the largest in the city, is used each year to present artists of national



Spartanburg Country Club

prominence brought to the city by the Spartanburg Civic Music Association, and concerts of the Spartanburg Male Chorus. Wofford

College for men, operated and controlled by the Methodist Church, ranks with the best in the South. Their buildings and landscaped campuses are beauty spots of Spartanburg. Located here the Textile Industrial Institute and Cedar Spring Institute, State School for the Deaf and Blind. Spartanburg's graded and high school system with eleven school plants and a scholastic population of 8,903 is accredited by all universities and colleges.

RECREATION

Spartanburg spares no ex-

pense in safeguarding the health of its youth and in providing facilities for the development of limb, a n d character mind through directed play. Seven well equipped playgrounds. three athletic fields and three large parks furnish ample space and entertainment for the play hours of youth. Golf. tennis. basketball, baseball, swimming, fishing, football, croquet and softball are the sports that are

enjoyed by the population of a community whose climate permits their enjoyment practically the whole year through. Three modern golf



Wilson Building, Converse College for Women



One of the Spartanburg Mills

courses, one municipally owned and two country club courses, attract golfers to the city. Skeet shooting is also a popular sport in Spartanburg where a club is in operation, affording year-round practice and entertainment for those who like to shoot. Four theatres provide the best in stage and screen entertainment.

TRANSPORTATION SYSTEMS

Spartanburg, in addition to being the center of rail transportation in the southeast, occupies a position on three of the important U. S. Highways serving the Piedmont area. With the finest airport in the Piedmont, this City is open to air travel every day and night during the year.

TEXTILE AND DIVERSIFIED MANUFACTURING

The outstanding manufacturing enterprise of the community is the production of textiles. Spartanburg County, with thirty-five prosperous mills, operates more looms than any other county in the South and ranks third in the nation in the number of spindles in operation. These mills, employing 15,795 persons, produce from cotton, materials of every design and texture.

While Spartanburg's principal industry is the manufacture of cotton textiles, industrial diversification is well under way. In operation in Spartanburg County one finds iron and steel works, loom, reed and harness plants, machine shops, fertilizer plants, oil mills, lumber plants, creosoting plant, railway repair shops, concrete pipe manufacturers, flour and grist mills, bakeries, drugs, wood working plant, paint manufacturers, ice plants, cigar manufacturers, mattress makers, marble and granite works.

With much of the wealth from these manufactured products finding its way into local channels of trade, Spartanburg's resources have increased year by year.

AGRICULTURE

Spartanburg County is one of the largest agricultural counties in the Southeast. Cotton is the chief cash crop. In the last ten years Spartanburg County has become the leading cotton producing county in the State of South Carolina.

A young growing industry—the production of quality peaches—is challenging the supremacy of cotton as the principal agricultural product. The climate and soil seem to be very

favorable for the production of peaches, and, during the seventeen years of their commercial production, the growers have never experienced a complete failure. This is very unusual, as most other sections producing peaches experience a complete loss every few years because of weather conditions.

In addition to peaches and cotton, the beautifully terraced farms of the County produce large quantities of corn, wheat and oats which form a foundation for livestock enterprises. Cows, hogs and poultry are the principal livestock projects. A small acreage is also devoted to the production of truck crops and small berries for the local markets. A number of large commercial dairies are located around the City of Spartanburg and supply fresh, high quality milk daily. The picturesque farms produce wealth that rivals the manufacturing concerns generously spotted over the entire County.

RETAIL TRADE

Spartanburg with every type of retail establishment, handling all commodities, is the chief shopping point for a retail trade territory including portions of four counties in South Carolina and three counties in North Carolina. Spartanburg ranks second in the State with 1,369 of the 14,672 active proprietors of industry and business. The city's 471 stores with annual sales in excess of \$14,000,000.00, have an annual payroll of approximately \$1,500,000.00.

HISTORICAL BACKGROUND

Spartanburg derives its name from the Spartan Regiment that represented this community in the Revolutionary War. The town was incorporated in 1831, churches established, schools and hotels built, and plans were under way for improving means of communication. The decade of 1850 saw the completion of a railroad connecting Spartanburg with coastal cities and making it a mecca for summer visitors from the low country. Following the Civil War, cotton mills were erected, retail trade was developed, and a graded school system and a Board of Trade was organized. Completion of rail connections with Asheville, Charlotte and Augusta, and the fact that the population doubled itself between 1880-1890 contributed to the development of Spartanburg and to its just claim to the title, "Hub City of the Southeast."

THE JOURNAL

OF THE

South Carolina Medical Association

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APRIL, 1939

OUTSTANDING FEATURES NINETY-FIRST ANNUAL MEETING SOUTH CAROLINA MEDICAL ASSOCIATION, SPARTANBURG, APRIL 11, 12, 13

House of Delegates

The plan last year in having the House of Delegates meet in the morning instead of at night will be continued and the House will assemble at 10:00 A. M., Tuesday, April 11 and remain in session all day. This will give an opportunity for the unusual volume of business to be attended to and properly disposed of.

The General Meeting Opening Exercises

An innovation is introduced this year by having the opening exercises of the Association on Tuesday evening at 8:30. The idea is to present a proper setting for one of the distinguished guests of the Association and whose address the public will be keenly interested in. The Program Committee had many requests to the effect that a part of the meeting this year be devoted to the many problems now uppermost in the minds of the profession and the public in regard to possible radical changes in the care of the health of the people of the United States. The Committee invited one of the most versatile speakers in this country to

discuss these problems, Dr. Arthur T. Mc-Cormack of Louisville, President of the Southern Medical Association; Health Commissioner of Kentucky and retiring President of the American Public Health Association. Special invitations will be issued to leaders of the business and professional interests of Spartanburg and vicinity to be present and hear this address. It is highly desirable that every member of the Association who can possibly do so be present at this extra-ordinary opening session.

The Scientific Program

On Wednesday morning promptly at 9:00 A. M. the scientific sessions will open and be carried on without interruption through Wednesday and Thursday. The subjects of the papers cover a large part of the every day practice of the busy doctor.

Round Table Discussions

The round table conference has become a major phase in the conduct of many medical societies including our own thus dispensing with the purely paper reading program to a considerable extent. We have never had so many guests on our scientific program as is the case this year and they represent a number of our greatest teaching institutions. Some



Dr. Arthur T. McCormack, Health Commissioner of Kentucky, Louisville, Kentucky

of these guests will lead round table discussions. They are as follows: Dr. R. A. Ross, Assistant Professor of Obstetrics and Gynecology, Duke University, Durham, N. C.; Dr. V. P. Sydenstricker, Professor of Medicine, University of Georgia, School of Medicine, Augusta, Georgia; Dr. Eugene P. Pendergrass, Professor of Radiology, School of Medicine and Graduate School of Medicine, University of Pennsylvania, Philadelphia. leaders of round table discussions will be Dr. F. M. Routh, Chairman of the State Board of Health, Columbia, S. C.; Dr. F. E. Kredel, Associate Professor of Surgery, Medical College of the State of South Carolina, Charleston, S. C. In addition to these contributors to the scientific program a former South Carolinian, Dr. Wilbur E. Burnett, Associate Professor of Surgery, Temple University, Philadelphia, Pennsylvania, will deliver the address in surgery.

The Woman's Auxiliary

The program of the Woman's Auxiliary should prove to be of keen interest to every doctor's wife and it is expected that the attendance will be unusually large this year.

Entertainments

On Tuesday evening, April 11, following the conclusions of the opening program an informal Smoker will be tendered by the Spartanburg County Medical Society to the visiting physicians. The President's reception and ball will follow on Wednesday evening, April 12. This event is a time honored classic and of course gives an opportunity for enjoying social contacts on the part of the members and their wives and the citizens of Spartanburg.

Hotels

The Cleveland Hotel will be Headquarters for the Association and the Franklin Hotel will be Headquarters for the Woman's Auxiliary. Then there is the Morgan Hotel also recommended by the Committee.

NEW SECTION IN THE JOURNAL ON MEDICAL EDUCATION

It is with peculiar pride that we present in this issue a new department intended to pro-

mote the best interests of both under-graduate and post-graduate medical training in South Carolina. First of all we are happy to announce the plans and architect's drawing for the new medical college of the State of South The consummation of this long worked for event will bring joy to the hearts of hundreds of physicians and prospective physicians in this State. The completed plans of the new college will call for an expenditure of approximately half a million dollars. Credit for the success of this enterprise belongs to numerous individuals. The funds have been secured from the State, from the Federal Government and from the loyal members of the medical profession in South Carolina. The South Carolina Medical Association has played a significant 10le in the picture. The Alumni Association of the College deserves great commendation for its activities also and last but not least the Faculty and Board of Trustees of the College have labored in season and out of season for many years to bring about these facilities for greater expansion of the institution. It remains now for every friend of the College to lend a hand in securing larger appropriations for its maintenance.

Post graduate medical education throughout the world has taken on a much greater scope in recent years. This has become a necessity owing to the rapid advances in medicine and surgery. Our efforts along this line in South Carolina have been sporadic but significant nevertheless. Various plans have been tried as in most other States and even yet much remains to be done to place graduate education on a sound footing. Only a few doctors are able to leave their practice and visit the great medical centers so that it has become imperative to bring graduate education to the doctor by extension courses, by seminars and by clinical assemblies.

One of the more recent developments in our State has been that of the Piedmont Post Graduate Clinical Assembly of Anderson. A new feature is being promoted in this issue of the Journal by opening the columns for scientific papers under the auspices of the Assembly and presented by outstanding clinicians in this and surrounding states. The idea of the plan is to keep alive throughout the entire year the

teaching spirit of the Assembly rather than wholly concentrating on the three day sessions in the fall.

We wish to record our approval of the refresher courses in obstetrics given during 1938 under the direction of the Division of Maternal and Child Health of the State Board of Health and the Children's Bureau, Washington, D. C. and conducted by Dr. L. A. Wilson, Professor of Obstetrics at the Medical College of the State of South Carolina. Several hundred

South Carolina physicians attended these courses and it is hoped that some provision may be made for similar post graduate instruction in 1939.

While not strictly speaking a South Carolina institution the Southern Pediatric Seminar at Saluda, N. C., has been one of the outstanding institutions in the United States in providing refresher courses in Pediatrics and many South Carolina doctors have taken advantage of them.



Dr. Eugene P. Pendergrass, Professor of Radiology, School of Medicine and Graduate School of Medicine, University of Pennsylvania. Director of the Department of Radiology, Hospital of the University of Pennsylvania.



Anderson County Hospital and Nurses' Home, Anderson, S. C., where annual sessions of Piedmont Post Graduate Clinical Assembly are held.

MEDICAL EDUCATION

With this issue the Journal begins a new Department of post graduate education with the publication of practical articles dealing with medical and surgical problems of the day under the auspices of the Piedmont Post Graduate Clinical Assembly.—Editor.

SOME OBSERVATIONS ON THE BLOOD CELL SEDIMENTATION RATE IN GENERAL MEDICAL DIAGNOSIS. ITS VALUE AS AN AID IN DIFFERENTIATING MALIGNANT FROM BENIGN TUMORS. ANALYSIS OF FIFTY CASES

J. M. Feder, M. D., Pathologist, Anderson County Hospital, Anderson, S. C.

Preliminary Consideration:—The sedimentation rate of the erythrocytes is one of the oldest laboratory procedures in existence. Galen is said to have observed some of its manifestations and it is quite certain that John Hunter noted that the blood cells settled more rapidly in cases where inflammation was present

than in normal blood.

In the two decades that have elapsed since Fahraous (1) introduced this test on a scientific basis, it has received varying degrees of approval. The arc of the pendulum swung all of the way from those who embraced it as a Panacea for our diagnostic ills to those at the other extreme who branded the findings misleading and worthless.

From our own investigations it has long been our conviction that the truth lay somewhere along the route between these. The blood sedimentation rate, like all other laboratory investigations, will lead only to failure and dissatisfaction if it is required to stand alone. Rather, in common with other similar reactions, it should be viewed only in the

light of a section in the diagnostic jig-saw puzzle and not as the finished picture.

Looked upon in that manner, the erythrocyte sedimentation rate becomes a valuable aid in diagnosis and a guide in determining the progress of a pathological lesion under investigation.

Practical Application:—Blood cell sedimentation rate will be found valuable in the differential diagnosis of acute salpingitis and acute appendicitis. Repeated observations have demonstrated that while the sedimentation rate is accelerated in adenexal disease, it is not disturbed in uncomplicated appendicitis. After the structure ruptures, when abscess formation or peritonitis is present the test is no longer of value as a differential aid. However, in the average case seen in the office of a general practitioner, the information that this simple procedure will impart will prove to be invaluable. It has been found much more sensitive and a much more reliable guide to the extent of inflammatory process than the leucocyte count, Schilling Index and ordinary differential blood study.

The sedimentation rate is of value in determining the proper time to operate when waiting for inflammatory reaction to subside in the presence of pelvic inflammatory disease. When the rate has fallen to normal the process will usually be found free from acute inflammatory reaction. Here, again, the sedimentation rate has proven to be a much more reliable index than the blood count. If sole reliance is placed in the leucocyte count, not infrequently a patient will be sent to operation in whom the process has not been sufficiently subdued to make surgery consistent with safety.

Biern (2) determined from his investigations that the sedimentation rate is constantly high in genito-urinary diseases that resemble appendicitis in their clinical manifestations. These conditions include pyonephrosis, pyelitis, ureteral calculus and seminal vesiculitis. This same author states that gall bladder inflammatory diseases present a rapid sedimentation rate while it is normal in gastric ulcer.

In tuberculosis, it has been found to be a most excellent guide to the severity of the disease. In very active tubercular processes there is a very marked rise in the sedimentation rate while it is but slightly elevated in the quiescent state. By following the sedimentation index, the progress of the case can be accurately evaluated and disaster sometimes foreseen in spite of favorable clinical signs such as absence of fever, normal pulse rate and gain in weight.

The Blood Sedimentation Rate as an Aid in Differentiating Malignant from Benign Neoplasms

Interest in this procedure was stimulated by the need for some means of aiding in determining whether or not a lesion was malignant when it was beyond the reach of ordinary exploratory and biopsy methods. This was especially true in the case of lesions of the gastrointestinal tract. Many of the borderline tumors in this region are difficult to classify even after the most painstaking laboratory and X-ray investigation. In our series of cases, the information given by the sedimentation rate corresponded with the pathology found at operation in the majority of instances. In this connection I quote from Biern (3) "Gastric pathology, unless peritonitis is present, gives a consistently normal sedimentation rate and I have never seen a normal rate in malignancy. This fact has been confirmed by numerous observers."

Controls:—Before entering into our studies, an effort was made to determine the relatively normal sedimentation rate in a group of men and women in good health and at the prime of life. Accordingly, five physicians between 30 and 45 years of age were selected as male controls and 5 nurses and technicians between the ages of 20 and 30 were chosen as female controls. In the males, the highest sedimentation rate was 11 mm. in one hour and the lowest was 5 mm. with a mean rate of 8 mm. In the female group the lowest reading was 3 mm. and the highest 9 with a mean of 6 mm.

Case Reports:—The following cases were not selected but were taken chronologically as they entered the hospital, the only qualifications being that they were suspected of having some form of neoplasm and that they were potentially operative cases in order that the tumor present could be subjected to pathological examination. Inoperable cases were excluded.

Numb	er	Clinical Diagnosis	Pathological Diagnosis	Sedimentation Rate mm. in one hour
	1.	Prostatism	Adenocarcinoma of Prostate, Grade 2.	25 mm.
	2.	Fibroid Uterus	Fibroid Uterus	9 mm.
	3.	Lipoma; neck	Carotid Body Tumor	20 mm.
	4.	Carcinoma of Stomach	Carcinoma of Stomach Grade 4	26 mm.
	5.	Sarcoma of thigh	Spindle Cell Sarcoma of thigh	28 mm.
	6.	Fibroid Uterus "Degenerated"	"Adenocarcinoma of Uterine fundus. Grade 4.	29 mm.
	7.	Fibroid Uterus	Adenocarcinoma of Ovary	29 mm.
(a)	8.	Fibroid Uterus	Myometritis, endometritis, No evidence malignancy	30 mm.
	9.	Syphilis, tuberculosis or carcinoma of larynx	Papillary squamous cell carcinoma of larynx. Grade 1.	20 mm.
(b)	10.	Malignant melanoma excised from left arm 2 weeks before test	No evidence of metastasis	8 mm.
(c)	11.	Prostatism	Adenocarcinoma of Prostate. Grade 2.	25 mm.
(d)	12.	Prostatism	Hypertrophic prostatitis	3 mm.
:	13.	Carcinoma of colon	Primary carcinoma of liver	24 mm.
1	14.	Prostatism	Carcinoma of prostate. Grade 2.	29 mm.
1	15.	Prostatism	Carcinoma of Prostate. Grade 2.	22 mm.
1	16.	Papilloma of bladder	Benign fibro adenoma	9 mm.
1	17.	Abdominal mass. Etiology undetermined (obese)	Fibroid Uterus	12 mm.
1	18.	Prostatism	Chronic Prostatitis	11 mm.
:	19.	Carcinoma of uterine fundus	Dead fetus	8 mm.
2	20.	Prostatism	Hypertrophic Prostatitis	16 mm.
2	21.	Prostatism	Carcinoma of prostate Grade 1	24 mm.
2	22.	Pelvic tumor	Serous cyst of ovary	12 mm.
	23.	Carcinoma of colon	Carcinoma of colon	26 mm.
	24.	Gastric ulcer	Gastric ulcer	5 mm.
2	25.	Ovarian cyst	Serous cyst of ovary	4 mm.
(e) 2	26.	Benign breast tumor	Fibroadenoma of breast	18 mm.
2	27.	Carcinoma of rectum	Carcinoma of rectum	15 mm.
(f)	28.	Fibroid uterus	Fibroid uterus	19 mm.
í	29.	Polycystic kidney (?)	Retroperitoneal lymphosarcoma	30 mm.
;	30.	Carcinoma head of pancreas	Carcinoma, head of the pancreas	30 mm.
	31.	Fibroid uterus	Gangrenous cervical polyp (Benign)	29 mm.
;	32.	Carcinoma of colon	Carcinoma of colon	22 mm.
(g)	33.	Carcinoma of colon	Carcinoma of colon	9 mm.
(h)	34.	Carcinoma of breast	Cystic mastitis	21 mm.
	35.	Carcinoma of rectum (?) Lymphogranuloma inquinale (?)	Carcinoma of rectum	42 mm.

(i)	36.	Fibroid uterus	Fibroid uterus Subacute salpingitis	19	mm.
	37.	Carcinoma of uterus	Submucous fibroid (benign)	7	mm.
	38.	Intestinal Obstruction	Volvulus	2	mm.
	39.	Carcinoma of stomach	Cholelithiasis	3	mın.
(j)	40.	Abdominal tumor	Adenocarcinoma of Ovary	14	mm.
	41	Adenoma of thyroid	Adenoma of thyroid (benign)	12	mm.
	42.	Sarcoma, left neck	Rhabdomyosarcoma	38	mm.
	43.	Colitis, amoebic (?)	Carcinoma of colon	32	mm.
	44.	Prostatism	Chronic prostatitis	6	ınm.
(k)	45.	Carcinoma of prostate	Carcinoma of prostate Grade 1	10	mm.
	46.	Fibroid Uterus	Fibroid Uterus Subacute salpingitis	14	mm.
	47.	Chronic prostatitis	Chronic prostatitis	13	mm.
	48.	Chronic prostatitis	Chronic prostatitis	9	mm.
	49.	Carcinoma of stomach	Carcinoma of stomach	21	mm.
	50.	Colitis	Carcinoma of colon	33	mm.

- (a) 8. Only moderate inflammatory reaction present. Not believed to be of sufficient extent to account for accelerated sedimentation rate.
- (b) 10. The test is thought to be of value in determining whether or not a neoplasm has metastatsized. Two weeks following excision of this obviously malignant melanoma the sedimentation rate was normal. No recurrence to date, 10 months later.
- (c) 11. and (d) 12. Noted for curios feature that patients were brothers, operated upon the same day. One had a malignant prostate, the other benign.
- (e) 26. No explanation for this acceleration. Tumor perfectly benign with no inflammatory reaction. Surgeon believed that this girl had some pelvic disorder but no examination made.
- (f) 28. Demonstrating fact that X-ray treatment accelerates sedimentation rate. This Uterine Fibroid had extensive radiation.
- (g) 33. This case illustrates fallacy of estimating sedimentation rate after repeated transfusion. A number of injections of blood had been given before the estimation was made. The carcinoma was Grade 4. (Case 27 also had transfusion before test was made.)
- (h) 34. The accompanying inflammatory reaction was possibly sufficient to give the increased sedimentation rate noted.
- (i) 36. The accompanying salpingitis was the inflammatory factor involved in this instance.
- (j) 40. Upon review of sections, several Pathologists have agreed that this neoplasm is probably a benign disgerminoma rather than an adenocarcinoma.
- (k) The pathological diagnosis was questionable. There was scant evidence upon which to base a diagnosis of a very low grade malignancy. However, in view of the fact that all of the prostate

cases reported were transuretheral resections and in this operation, all of the structure is not available for examination it is deemed the course of safety to designate all borderline cases as malignant. One can never be certain that much more definitely cancerous tissue has not been left behind.

Analysis of Cases Presented:—Increasing sedimentation rate from 10, the accepted high normal to 15 to compensate for some degree of tissue destruction that is present in connection with all neoplastic diseases, and working from that figure it is found that there is absolute agreement between the Pathological Diagnosis and the sedimentation rate is 39 or 78 per cent of these cases.

In 2 cases (4 per cent) there is considerable doubt about the lesions being malignant. (Case 40 and 45.)

One patient had been subjected to radiation for control of hemorrhage resulting from a fibroid uterus and two had received transfusions before sedimentation rate was estimated.

Four of these patients had coexisting inflammatory reaction of sufficient magnitude to account for the increased sedimentation rate and in two no explanation could be found.

Neither of the two benign breast tumors gave a normal rate. One of these was a chronic cystic mastitis with considerable inflammatory reaction, the other was free from inflammation, was fibrotic and quite acellular. The surgeon suspected some pelvic disturb-

ance in this girl but no examination was indicated at the time of removal of the tumor.

Technic and Interpretation:—Material Required:—The simplicity of the test makes it ideal for use in the office or anywhere that it is needed. The only essential equipment is a 5 cc. syringe and needle, a 5 cc. type Cutler sedimentation tube and 20 per cent Potassium Oxalate Solution. This latter should be kept in one ounce dropper bottle and it can be easily prepared by any druggist.

The Cutler tube is by no means an essential. One can use the so-called Kolmer Wassermann tube which is 15 x 100 mm. and by making use of the millimeter rule furnished gratis by most instrument houses, measure the column of fluid above the cells. The only advantage of the Cutler tube is the fact that it is graduated in millimeters, which facilitates reading.

Performance of Test:—Place 4 drops of 20 per cent Potassium Oxalate Solution in a wide mouth one ounce bottle and allow the fluid to evaporate, leaving upon the bottom of the bottle the finely powdered, dried anticoagulant. Puncture a vein and withdraw 5 cc. of blood. Transfer this to bottle containing Oxalate, after rotating gently to mix with oxalate, pouring to a Cutler or ordinary Kolmer tube. Set the container upright. (This is important that it be perfectly perpendicular as slanting will effect the accuracy of the reading.) The end result or sedimentation rate is the number of millimeters that the cell column will fall in one hour. When this period has elapsed, read from the top of cell column to top of plasma. This can be told at a glance on the Cutler Tube but can be easily measured on those without calibration.

Interpretation of Test:—The consensus of opinion places 10 mm. as the upper limit for a normal sedimentation rate. In other words, the sedimentation rate is the distance that a column of cells in Oxalated blood will fall in the space of one hour when the container is a tube of approximately 14 mm. in diameter. In the accepted normal this figure is 10 mm. It would seem wise to approach slight rises with caution as this reaction is affected by any type of tissue destruction and as has already been pointed out, a histologically benign

tumor will present an accelerated rate following X-ray therapy and on the other hand, the rate may fall to normal in an individual with an advanced malignant tumor following several blood transfusions.

Generally speaking, however, by following the sedimentation rate daily, one can be appraised pretty accurately concerning the behavior of any process under investigation. In adenexal disease with a rate that has fallen from 30 mm. to 10 mm. in two or three weeks, operation can be performed with reasonable assurance that the active lesion has subsided. In a like manner, if a case of tuberculosis is being studied and the patient has been showing a slightly accelerated sedimentation rate; one can well be alarmed should this curve suddenly show an upward break.

Properly interpreted, this test will often aid not only in differential diagnosis but as a storm warning in otherwise foreseen disaster. Its simplicity makes it at once available to everyone and the cost of its application is practically nil.

SUMMARY

- 1. A preliminary survey of the value of the blood sedimentation rate is given.
- 2. An attempt has been made to evaluate this test as a means of differentiating benign from malignant neoplasms. A series of 50 cases has been reported in which there was absolute agreement between pathological diagnosis and sedimentation rate in 78 per cent and relative agreement or easily explained disagreement in 18 per cent. In 4 per cent the lack of agreement could not be explained.
- 3. It has been definitely demonstrated by a series of cases investigated independently of this report, that radiation of any tumor, whether malignant or benign will definately increase the sedimentation rate. This examination made following radiation is valueless.
- 4. Blood transfusion will lower the sedimentation rate even in the presence of active malignancy. Sedimentation rates to be of value must be made before the transfusion is given.
- 5. The optimal figure of 10 mm. sedimentation in one hour is applicable to inflammatory lesions but it has been found necessary in our work with neoplasms to raise this figure to 15 to compensate for essential tissue destruction

present in most tumors, whether malignant or benign.

6. The simplicity of the precedure lends it to office practice as an everyday diagnostic aid.

CONCLUSIONS

It is fully realized that the series of cases reported is too small to be of signal value and our only reason for presenting them is the hope that this may stimulate others to publish their observations in this connection. It is felt that much work remains to be done in the differentiation of the various lymphoblastomas and the leukemias. The subject of skin cancer has not been touched upon and the field of metastasis after elimination of parent tumor would seem a fertile one for further investigation.

In the foregoing, no effort has been made to prove or disprove any disputed point. The simpler, one reading technic for the performance of the test has been given on account of its ease of application. For those situated where time is available, the graphic charting of the falling cell column, noted every five minutes will prove to be of some value. Method for doing this will be found in any standard text on Clinical Pathology.

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From: Laboratories of Anderson County Hospital. Anderson, S. C.

*The courtesy and cooperation of members of the staff of the Anderson County Hospital made possible the pursuit of this study by placing at my disposal suitable clinical material. Their kindness is at this time gratefully acknowledged.

I also wish to express my appreciation for the valuable technical assistance given me during this investigation by my two laboratory associates, Mrs. Nan Stewart and Miss Nancy Brown.

THE TREATMENT OF PELLAGRA*

By Julian M. Ruffin, M. D.

Associate Professor of Medicine, The Department of Medicine, Duke University School of Medicine, Durham, North Carolina

Since the first description of pellagra some two hundred years ago, the disease has been associated in some way with a faulty diet. It was originally thought to be due to the ingestion of spoiled maize, and certain of the English writers still adhere to this belief. It has been attributed variously to some specific poison, to the lack of iron or of hydrochloric acid, to an infection by some unknown organism or virus, and to a dietary deficiency.

In reviewing the recent literature, it is apparent that there are still two conflicting schools of thought: (1) that pellagra is due to a dietary deficiency, and to nothing else; (2) that pellagra is the result of an infection, with a deficient diet playing a minor role, if any part at all.

While it is difficult to disprove the infec-

*This article was secured through the courtesy of Dr. David Smith of Duke University and Vice President for N. C. of the Post Graduate Clinical Assembly.

tious theory, it is well known that pellagra cannot be transmitted from person to person and we would do wisely to recognize that the weight of evidence is overwhelmingly in favor of the belief that pellagra is due to a dietary deficiency and that infection plays no part whatever.

PREVENTION

If one accepts the deficiency theory, the prevention of the disease may be summed up in a single phrase—a well-balanced diet, including red meats, milk, eggs, and green vegetables. It has been said that pellagra is a disease of poverty. This is only partially true. Pellagra is due, not so much to the lack of funds, as to the lack of intelligence. There is not much that can be done about the eradication of pellagra as long as the farmer, through preference rather than from necessity, lives targely off of fat back, hominy grits, gravy, cornbread and molasses. In travelling through North Carolina one observes that cotton and tobacco come up to the kitchen door, with rarely a garden, a cow, or a chicken. The tenant farmer raises cotton, tobacco, pine trees, and children, and pellagra is prevalent. While the distribution of yeast is important it is unwise to rely solely upon this for the control of pellagra. The same may be said for nicotinic acid. There is good reason to believe that pellagra is due to multiple deficiencies, or at least that multiple deficiencies are present, and to correct only one of them will necessarily lead to trouble.

TREATMENT

Several years ago we showed that prompt and dramatic recovery usually takes place when the patient with pellagra was given liver extract in relatively large doses. However, liver extract is expensive, and its use in the treatment of pellagra on a large scale is prohibitive. An effort was made, therefore, to isolate the factor present in liver extract which was responsible for recovery.

About a year ago it was shown by Elvehjin that Nicotinic Acid, which is present in liver extract, is highly effective in the treatment of experimental blacktongue. Its value in the treatment of human pellagra was shortly afterwards demonstrated by four different groups, working independently and simultaneously.

In our experience, small doses of Nicotinic Acid, about 100 mg. per day, result in prompt and dramatic recovery. This may be given by mouth, intramuscularly, or intravenously. It is wiser to give the oral dose in solution as the drug is not particularly soluble. The material for parenternal use is prepared by dissolving Nicotinic Acid in normal saline so that 1 cc. contains 5 mg. and is sterilized by boiling.

The size of the dose is a matter of importance. As large a dose as 0.5 to 1. 5 grams per day have been recommended. We find, however, that excellent results are obtained with doses of only 100 mg. per day and advise against the use of large doses. In normal individuals very unpleasant symptoms follow the administration of one gram per day. We believe, therefore, that the drug is definitely toxic, and its indiscriminate use in large doses is to be deplored.

Mild cases of pellagra, as a rule, recover promptly when fed a well balanced diet containing red meat, eggs, fresh vegetables, milk and fruits. When such a diet is available no other treatment is necessary, although the patient should be advised to avoid exposure to direct sunlight until all symptoms of the disease have subsided.

The patients having moderately severe pellagra should be confined to bed, either at home or in the hospital. In addition to a well balanced diet they should receive dried yeast, liver extracts, or nicotinic acid. The yeast should be given in doses of 1 to 2 oz. (30 to 60 gm.) daily in water. An aqueous extract of whole liver (Valentine's liver extract) in doses of 1 tablespoonful (15 cc.) three times a day is curative. Nicotinic acid is the cheapest form of therapy. It may be given in tablets or capsules, 100 mg. 2 or 3 times a day, or preferably 100 mg. in solution once or twice daily by mouth.

Severely ill patients, especially those with diarrhea and dementia, should be hospitalized invariably and treated as emergency cases. It is a common observation that patients of this type, even though they do not appear critically ill, may go into collapse and die within 24 hours. Probably the most important treatment in these cases is the prompt administration of glucose and saline intravenously. Continuous saline infusions may also be necessary to combat the dehydration. The diet in this stage of the disease is of little importance, as the acute glossitis, anorexia, nausea, and vomiting may prevent the ingestion of food or even of liquids. Yeast is obviously of little value. An aqueous liver extract (Valentine's liver extract), 30 cc. (1 oz.) t. i. d., is effective if it can be retained. The best treatment for such cases is the intravenous administration of nicotinic acid in doses of approximately 100 mg. per day. This is most conveniently given by adding the nicotinic acid solution to the glucose and saline. This is continued until the gastro-intestinal symptoms have subsided, and then the patient is given a full liquid diet. After a few rays a well balanced diet is given. When the patient is able to eat, the intravenous treatment may be discontinued and the nicotinic acid given by mouth, 100 mg. once or twice daily.

In our experience it is not necessary to treat the local lesions of pellagra. Mouth washes, wet dressings for the dermatitis, tincture of opium, and bismuth for the diarrhea are not only useless but may be actually harmful.

WOMAN'S AUXILIARY

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PROGRAM OF THE WOMAN'S AUX-ILIARY TO THE STATE MEDICAL CONVENTION SPARTANBURG, S. C., APRIL 11, 12, 13

Headquarters for the Auxiliary will be at the Franklin Hotel

Preliminary Meetings, Tuesday, April 11, at the Franklin Hotel

Student Loan Fund Committee, 8 P. M., Mrs. L. O. Mauldin, Chairman, Presiding. Executive Board Meeting, 8:30 P. M., Mrs. C. C. Ariail, President, Presiding.

Wednesday, April 12, 9:30 A. M.

Ball Room, Franklin Hotel

House of Delegates—Mrs. C. C. Ariail, President of the Woman's Auxiliary, Presiding. Reports of Officers and Chairmen will be heard at this time.

Officers will be elected to serve the Auxiliary for the year 1939-1940.

Program Meeting, 11:30 A. M.

Call to order

Invocation by Reverend Chas. P. Shealey,

Pastor of Womans Memorial Lutheran Church, Spartanburg, S. C.

Assembly singing—America, the Beautiful (one verse)

Club Woman Creed

Address of Welcome—Mrs. Jesse O. Willson, Spartanburg, S. C.

Response—Mrs. J. L. Sanders, Greenville, S. C.

Greetings from Spartanburg County Medical Society—Dr. J. T. Carter, President

Greetings from the Advisory Council—Dr. E. A. Hines, Chairman

Presentation of Dr. J. R. Des Portes, President of the S. C. Medical Association

Address—Mrs. C. C. Tomlinson, President of the Womans Auxiliary to the American Medical Assn., Omaha, Nebraska

Music

Awarding of the Strait Historical Trophy— Mrs. J. E. Orr, Seneca, S. C.

Awarding of the Wilson Publicity Trophy—Mrs. J. W. Cutchins, Easley, S. C.

Awarding of the Ariail Prize in Health Education—Mrs. T. A. Pitts, Columbia, S. C.

Music

President's Report

Presentation of State Pin to President

Installation of Officers

Presentation of Gavel

Social Functions

1:30—Luncheon at the Country Club, Courtesy of the Spartanburg County Medical Auxiliary.

Address by Mrs. V. E. Holcombe, National Program Chairman, Charleston, West Virginia

4:30—Garden Tour

5:30-6:30—Tea at the home of Mrs. Sam Orr Black, Courtesy of Mrs. Black and Mrs. Harry Heinitsh, Jr.

YORK MEDICAL AUXILIARY

Affording the greatest pleasure to members and guests was the reciprocity meeting of the

York County Medical Auxiliary held Wednesday afternoon, March 1, at the home of Mrs. Roy D. Sumner on East Main Street with Mrs. Frank Strait and Mrs. W. R. Blackmon as assisting hostesses. Lovely spring flowers were combined into artistic arrangements which added beauty to the setting.

Mrs. J. L. Bundy, President, spoke a word of greeting to the visiting Presidents of local Federated Clubs who were guests of the Auxiliary and then turned the meeting over to Mrs. I. A. Bigger, Program Chairman, who presented Dr. Roy D. Summer, guest speaker of the afternoon. Dr. Sumner gave a most instructive and beneficial talk on "The Discussion of Socialized Medicine."

Following Dr. Sumner's talk reports were heard from the Treasurer, Mrs. W. R. Blackmon; the Student Loan Fund Chairman, Mrs. W. W. Fennell; and the Hygeia Chairman, Mrs. W. W. Fennell, Tr.

An unusually pleasant social hour was held during which the hostesses served a tempting salad collation. Assisting in serving were Miss Majorie Gamble and Mrs. Clara Thorn. Enjoying this delightful affair were 18 club members and several guests.

SPARTANBURG MEDICAL AUXILIARY HOLDS MEETING TO PLAN FOR STATE CONVENTION

The Auxiliary to the Spartanburg County Medical Society held its regular meeting Tuesday afternoon, February 28, at the home of Mrs. F. H. Sanders at her home in Park Hills with Mrs. E. B. Says and Mrs. W. B. Lancaster as joint hostesses. A large group of members were present, and Mrs. L. A. Wheeler was a guest of the afternoon.

Mrs. Robert Dennis Hill, President, was in the chair and presided over the business session in which Mrs. I. A. Phifer was chosen as delegate to represent the local auxiliary at the state meeting to be held in Spartanburg, April 11, 12, 13 and Mrs. F. H. Sanders was chosen as alternate. Plans for the celebration of Doctor's day, March 30, were discussed. Mrs. Hill named the following Chairmen for the various activities for the forthcoming gathering at the state meeting:

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General Chairman, Mrs. Jesse O. Willson; Luncheon, Mrs. P. M. Temples; Decorations, Mrs. J. R. Sparkman; Entertainment, Mrs. Harry Heinitsh, Jr.; Music, Mrs. Q. S. Halliday; Registration, Mrs. J. C. Josey; Transportation, Mrs. C. D. Alford; Garden tour, Mrs. P. A. Smith; Publicity, Mrs. W. R. Esdale; Hospitality, Mrs. W. P. Coan; Corsage Committee, Mrs. R. D. Hill, Mrs. P. A. Smith and Mrs. Harry Heinitsh, Jr.

It was decided that the registration committee would greet the guests at the Franklin Hotel. On the first day of the Convention, there will be a luncheon at the Country Club and in the evening, the Medical Association is giving a ball. A nominating committee was appointed for election of new officers and after the business session a social hour was enjoyed.

The Building Project of the Medical College at Charleston

(Continued from page 91)

"D" along Mill Street. "D" on its east side extends into the new building "E".

Thus a solid and uninterrupted structure runs along Lucas and Mill Streets, and along the east lot line to within 20 feet of the moved Food Re-

search building, which is 20 feet from Calhoun

When additional funds become available, "E" will be completed clear to Calhoun Street about 90 feet. Then the whole plant will be a symmetrical-U, or three sides of an almost perfect square.

Central, continuous and connecting corridors on each floor will run from "A" through "F", "C", "D" and "E", all the way around so that, one can take a walk, beginning at the entrance of "A" on Calhoun St., of over 2500 feet or nearly one half mile.

It is hoped that the private property on Calhoun, between the Food Research and Library buildings, may be purchased for a college auditorium.

In lieu of the pictures, here is a brief description of floor plans of space assigned the departments:

"A", 52' x 98' accommodates the library on the first, pathology on the second floors.

"B", 83' x 87' as it is to be remodelled we hope, will on the first floor quarter the administration offices, the present assembly room, two student laboratories and offices for clinical pathology. On the second floor will be housed bacteriology plus offices and postmortem room for pathology.

The third floor will be occupied by physiological chemistry.

In towers "F" and "G", each 23' x 30', there are to be stairways and toilets and in "G", we trust, a passenger elevator.

The first floors of "C", 50' x 93'; "D", 42' x 96'; "E", on Mill Street, 52' x 87', with ell on east lot

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line 50' x 144', will yield quite ample space for outpatient clinics in surgery, medicine, dermatology, and maybe pediatrics, to relieve the incapacitating congestion in the old Roper Hospital dispensary.

In "C" one half of first floor will be assigned to clinical pathology.

In "E" there is an old fashioned demonstration amphitheater, brought up to date, that will warm the cockles of all our graduates, old and new. At the far end in "C" will be the new boiler and coal room. On the second floor of "C" the clinical professors and fellows of and in medicine, surgery, obstetrics, and pediatrics, will have their offices and laboratories, with a staff laboratory for common use.

On the third floor of "C" provision is made for offices and private research laboratories, for the personnel of the Department of Physiology; also a room for fluoroscopic demonstration, a room for metabolism experiments, one for cardiography, an animal room, a private operating room and a scrubup room for students, taking the course in operative technique.

The present building "D" will be much altered. The stairs to the second floor will be taken out. The machine shop will be moved to the old carpenter shop, which has in turn been moved to its new location adjoining the cadaver and anatomical museum building.

On the second floor the lecture room will be extended and the storage and issuing rooms eliminated to enlarge the student laboratory for physiology and pharmacology.

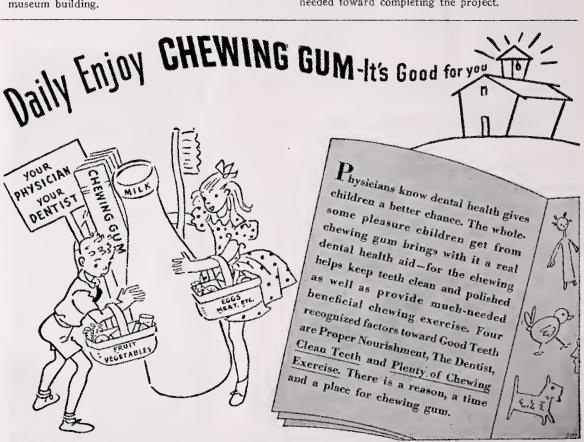
The third floor, now occupied as offices by the Department of Physiology, will be given oven entirely to Surgical Technique. The old dog roof will be retained, but roofed over.

The second floor of "E" on Mill Street and its ell on the east lot line adjoining the Van Ness and Anderson residences, will accommodate an issuing and storeroom for the adjacent old student labortory in "D", freight elevator across the corridor, all the offices and private research laboratories for pharmacology, and in the ell portion, considerable space, though not quite enough, for offices, lecture rooms, and student laboratories for the Department of Pharmacy.

Anatomy will use the entire third floor of "E", ell and all, with a new refrigerator room for cadavers, embalming room and offices, projector, lecture, technician, and prosector rooms, histology laboratory and a magnificent well lighted dissection chamber.

Note how related departments so far as possible are contiguous for closer scientific cooperation.

How grateful we are for the Alumni Fund, generously turned over to our Dean, and sorely needed toward completing the project.



NATIONAL ASSOCIATION OF CHEWING GUM MANUFACTURERS, STATEN ISLAND, NEW YORK

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X-ray Treatment of Infections

C. R. F. BAKER, M. D., SUMTER, S. C.

Xray was first used in the treatment of infections in 1902. At that time, it was noticed that certain types of infections seemed to improve after the exposure of the inflamed area to Xray for diagnostic purposes.

At first it was thought that the rays had distinct bactericidal properties but this theory has long been discarded. The present concept is quite different and given by Desjardins in Radiology in October, 1937 is briefly as follows: "Anyone who has had extended experience with radiotherapy for acute inflammations cannot fail to have been impressed by the prompt relief of pain and rapid resolution of lesions when treated early, or the acceleration of suppuration in lesions treated later: by the fact that acute inflammations of various kinds respond at about the same rate when treated at a corresponding stage; and by the fact that a small dose of rays is sufficient to produce this effect. Since the irradiation acts in the same way and on so many forms of acute inflammation, it would seem logical to conclude that the lesions must have some common factor. This factor would seem to be the radiosensitiveness of certain cells which are a more or less prominent feature of the majority of acute inflammations. In pyogenic infections, these in general are characterized by varying degrees of leucocytic infiltration. filtration appears to be natures method of intensifying the production of antibodies. Hyperemia is an additional factor which facilitates the mobilization and regimentation of the leucocytes. In certain acute inflammations, local leucocytic infiltration is not a prominent feature. Against infections of this kind the body apparently defends itself by a general reaction of the leucocytes in the circulating blood. Experiments have shown that each type of cell has a specific degree of sensitiveness to irradiation, some being extremely sensitive to small doses while others are not influenced by doses many times larger. The lymphocytes are the most sensitive to irradiation of all cells.

"In circumscribed inflammations the rays act mainly by destroying a portion of the lymphocytes infiltrating the lesion or circulating in the blood vessels which supply the affected area. This disintegration of the infiltrating leucocytes results in the liberation of the antibodies, ferments, and other protective substances contained in these cells. These liberated substances become mixed with the tissue fluids in the surrounding tissue spaces and thus liberated are more readily available for defensive purposes than contained in the original intact white cells. At the same time there is an increase in phagocytosis by the reticular cells.

"In the case of chronic inflammations, they are characterized by varying degrees of leucocytic infiltration, connective tissue proliferation and caseous or calcareous degeneration. While the leucocytic infiltration in such lesions is readily susceptible to irradiation, the con-

Read before the Sumter County Medical Association, Tuomey Hospital, Sumter, S. C., February 2, 1939. Much of the data in this article was taken from a collective review by M. Lowry Allen, M. D., in the International Abstracts of Surgery, S. G. & O., October, 1938.

nective tissue elements are comparatively resistant. Hence, the greater the degree of leucocytic infiltration in proportion to the connective tissue proliferation, the more marked and the more rapid is the influence of treatment. This is easily demonstrated clinically in the treatment of tuberculous lesions in which the effect of irradiation is greater during the infiltrative phase of the tubercles when leukocytes are abundant than later when caseation or calcification have taken place."

Hodges and Berger (2) citing their experience in the Xray treatment of infections over a period of seventeen years have classified the lesions into two groups in accordance with the susceptibility to irradiation. Group 1 comprises early localized erysipelas in adults, furuncles and furunculosis, granulomas, infected cellulitis of certain types, hemangiomas, Mikulicz's disease, parotitis, and rhinophyma. Group 11 comprises carbuncles, blastomycosis, and sporotrichosis. The writers feel that Group 1 lesions are amenable to Xray therapy to such a degree that no other form of treatment is necessary. Group 11 lesions, however, are of such a nature, that Xray is an important auxiliary in their management. In early localized erysipelas irradiation therapy may be considered as a specific. Small lesions so treated disappear within 24 hours and require no further treatment. Furuncles respond almost as readily. If treated early the lesions may be completely absorbed within 12 to 24 hours. Hodges (3) states that one of the most useful applications of the roentgen ray in the treatment of potentially serious infections is in the treatment of those apparently insignificant lesions which occur on the upper lip, around or within the nose, and around the eyes.

Manges (4) of Jefferson University reports about the same findings as Hodges and Berger in the same kinds of lesions.

Knupfer and Hummel (5) report their treatment of 49 cases of postoperative parotitis with irradiation therapy. Most favorable results were obtained in those cases treated early after the appearance of the infection.

Robinson and Spencer (6) treated 12 patients with postoperative parotitis. The parotitis in all the cases followed laparotomy. There were three deaths in the series which represents

a distinct decrease in the mortality generally encountered in these cases when ordinary methods of treatment are used. When irradiation was given early in these cases the inflammatory process was aborted or resulted in early localization.

Margraf (7) treated 118 cases of puerperal mastitis. The best results were obtained when the roentgen therapy was instituted with the first appearance of pain, swelling, fever, and leukocytosis. Of 71 cases in which treatment was started within 24 hours 92% had spontaneous healing as compared with 71% in non irradiated cases and with 81% of the cases in which irradiation therapy was started after the lapse of 24 hours. If surgical measures become necessary, irradiation did not seem to shorten the duration of the disease.

Schenck (8) administered irradiation therapy to 105 children suffering from acute cervical adenitis. Of these patients 86% were cured without ensuing suppuration. In the cases classed as cured, all subjective symptoms were relieved in 48 hours and the temperature returned to normal. The glandular swelling took about a week to subside.

Pfahler and Kapo (9) analyzed the results obtained from roentgen treatment in 333 cases of acute and chronic cervical adenitis. In 133 of the cases a diagnosis of tuberculosis was made. One hundred and fifty-nine of the 333 cases returned for observation. Of these 152 patients were cured, or partially cured, while only 7 did not show improvement. No more than 10 treatments were given to any one patient while the average number was 2 to 4. Those patients with old sinuses and scars were treated by electrothermic destruction followed by irradiation.

Rathbone (10) cites his results in treating 70 cases of sinus disease in children. In the group, 57% were cured, 28% showed improvement, and only 15% were not benefitted by the treatment. The criterian of cure was a complete disappearance of all evidence of sinus disease from a clinical and roentgen standpoint. The patients receiving the most benefit were the children with a diffuse lymphoid hyperplasia throughought the nose and throat accompanied by a watery or mucous nasal discharge, a history of frequent colds, a chronic

cough, and a roentgen demonstration of hyperplasia of the mucous membrane of the antra or ethmoids. After treatment it was found that these children had fewer colds and the sinuses were rarely ever again involved.

Daniel (11) reports good results from the early treatment of cases of acute otitis media. Resolution usually occured without suppuration when the treatment was applied within the first 24 hours.

Lucinian (12) treated fifty consecutive cases of otitis media. Thirty-one of the patients were in the acute stage, 8 were in the subacute stage and 11 were in the chronic stage. None of the cases in the acute stage developed mastoiditis or perforation of the drum and none of them required myringotomy. In 9 cases mastoiditis was already present when treatment was instituted and only 2 of these later required mastoidectomy. In the chronic cases the symptoms of peristent discharge, pain, tinnitus, and deafness were either diminished or eradicated and the healing of the drum seemed to be accelerated.

Powell (13) reports on the treatment of 47 cases of lobar pneumonia. Treatment in these patients was started in all stages of the disease and without regard to the type of the causative organism. None of the patients received serum although the usual supportive treatment was given. Sometimes irradiation was repeated in 48 hours. Comparing the results in these 70 cases with 76 patients treated without X-ray, the author observed that the irradiated patients seemed to be made more comfortable, many had crises in the first 24 hours following treatment, the mortality rate was lowered and complications were fewer.

Feinstein and Poppe (14) treated 30 patients with lung abscess. In 17 of these the condition developed after pneumonia and in 10 after influenza. Twenty-five of the cases were uncomplicated by gangrene. Recovery occurred in 22 of the uncomplicated cases and the other three were improved. None of the 25 developed any kind of complication or relapse. Improvement in the patients general condition could usually be noted right away. In chronic cases the results obtained were good also but irradiation had to be repeated. The authors believe that roentgen therapy yields the

highest percentage of cures and the most lasting results in recent cases of lung abscess as compared with all other methods of treatment.

Kelly and Dowell (15) report the results of irradiation therapy in the treatment of 56 cases of gas gangrene. In 44 of these the infection was confined to an extremity. The mortality rate was 8.9% which compares favorably with the rate in any series of cases thus far reported. Treatment was given twice a day until there was a distinct regression of the lesion. Amputation seems unnecessary as there were 12 patients who did not undergo amputation and all of them recovered. The best results were obtained when irradiation therapy was instituted early. Serum also was given the patients.

In conclusion I wish to say that no roent-genologist bribed me to read this paper, but I have been helped greatly by our roentgenologist in a number of cases and I just wanted to pass on the good word.

A couple of years ago my little boy had some enlarged glands beneath the left angle of his jaw with tenderness, redness, and fever. I was very much afraid they would have to be incised and drained but Dr. Parrish gave two X-ray treatments and the condition quickly cleared up without suppuration.

I have referred a number of cases of tuberculous cervical adenitis for X-ray therapy and uniformly the results have been good. One case had a fistula of long standing.

One case of carbuncle of the upper lip was treated thus and although the patient seemed to be in a desperate condition at the time of admission to the hospital, he recovered. I had another carbuncle treated by Xray; the patient was made much more comfortable and the course of the infection was greatly shortened.

In a case of fulminating cellulitis in and around the left breast the result with irradiation therapy was little short of miraculous.

Two cases of erysipelas of the face were treated by irradiation. One case was a woman over 80 years old and the other patient was about 75. In both cases the patient was practically well within 48 hours.

So far I have not had an opportunity to use the treatment in a case of gas gangrene but I am just waiting for such a case.

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Coronary and Myocardial Syphilis

This is a continuation of the new Department of post graduate education with the publication of practical articles dealing with medical and surgical problems of the day under the auspices of the Piedmont Post Graduate Clinical Assembly.—Editor.

JACK C. NORRIS, M. D., VICE-PRESIDENT FROM
THE STATE OF GEORGIA, PIEDMONT POST
GRADUATE CLINICAL ASSEMBLY
ATLANTA, GEORGIA

To most physicians heart syphilis is considered to be syphilitic aortic insufficiency, or syphilitic aortitis. It is now known that the Treponema Pallidum often invades every part of the heart, and other cardiac conditions may result from it which are not only of medical interest and importance, but are frequently more serious than the aortic lesions.

With these thoughts in mind, I should like to call attention, first, to syphilitic coronary The lesions were described by arteritis. Ehrlich (1) in 1880. He found grey-white foci in the myocardium which he thought to be the result of syphilis. In 1866 Lancereaux recognized also that the coronaries were affected by syphilis, for he mentioned such changes as an obliterating endarteritis. In 1911 Billings (1) reported on syphilitic coronary arteritis. Similar reports on the condition were made by Warthin (2) in 1912; Brooks (1) in 1921; Maher (7) in 1930; Moritz (1) in 1931; Paullin (3) in 1930; and Norris (4) in 1931, '33, '35 and Since those years many other similar reports have been made.

Read before the Post Graduate Clinical Assembly, Anderson, S. C., 1938.

CORONARY SYPHILIS

The pathology of syphilitic coronary arteritis is definite in type. The lesions may either be diffuse or localized, and any part or region of the arteries may be affected. The gross involvement is most marked about the coronary openings where narrowing of the ostia occurs, which reduces the mouth of the artery to a small lumen- even to pin point size. This constriction results from one or two pathological processes.

Puckering, swelling, edema, necrosis, wrinkling and scarring cause arterial distortion at the mouth of the coronary. The other pathological process is one in which there is actual invasion of the ostial coronary wall, or elsewhere, by a collar-like infiltration of cells, such as: lymphocytes, fibroblasts, plasma cells, and other cells of an inflammatory nature. Either of the strictures diminish the supply of arterial blood necessary for the normal function of the heart muscle. In previous reports I have classified syphilitic coronary arteritis and the description may be found in the Southern Medical Journal, May, 1933. Many things can occur to the patient with this condition. Among them are: small coronary aneurysms which may erode and rupture, or the arteries may be constricted at any region or branch of them. Most often both arteries are affected although I have seen one artery apparently normal while

the other was seriously impaired. The arteries may be involved both with syphilis and arteriosclerosis and differentiation may be made only with careful histologic study. If the sclerosis be considerable there is often an increased arterial pressure.

The symptoms in a patient with coronary syphilis may either be minor or quite severe in type. The principles governing them are the same as those in any other type of coronary disease, especially those principles concerned with adequate coronary sufficiency in regard to the immediate circulation of heart blood. Essentially. therefore. the narrower the coronary lumen, the more likely myocardial weakness. There is, however, a distinct difference when viewed from a pathologic standpoint. Not only do the arteries narrow in coronary syphilis, but the inflammation extends about the nerves supplying the coronary bed, and these patients give a history of pain about the heart, which in the beginning was of such a type as to be hardly noticeable, but of occasional frequency. After a few months, or years, the pains rapidly reached a degree of severity to be definitely anginal in type. Therefore, I consider such heart pain, without great severity, but of increasing intensity in a young person with syphilis, to be especially indicative of coronary effection. I also believe angina pectoris in a person under, or about, forty years of age who does not have arteriosclerosis or rheumatism to be syphilitic in type until proved to be caused by some other disorder. If patients with coronary syphilis develop classic symptoms of angina pectoris, then the prognosis is very grave. Two patients whom I recall, died suddenly.

MYOCARDIAL SYPHILIS

The next phase of the problem is concerned with the myocardial lesions which were first described in detail by Hektoen (5) and Warthin (2). Whenever the muscle is invaded the clinical and pathological features are definite and unmistakable. As a rule, the common lesion is characterized by the occurrence of grey or pale grey-white, fairly well defined areas within the left heart wall. These spots usually are not surrounded by zones of hyperemia. They are irregular in size and shape

and are fairly firm, containing little necrotic material such as that seen in infarction or tuberculosis, and simulate malignant infiltrations in appearance. Occasionally smaller lesions may be seen in the right heart wall and within the ventricular septum, seldom near the apex or about the auricles or the surface of the heart. Histologically there is a picturesque reaction composed of infiltrations of lymphocytic cells and fibroblasts with an occasional giant cell and many plasma cells. New thin wall blood vessels may be quite numerous. lymphocytes are mostly around the smaller blood vessels. Necessarily, a tissue change in such a heart must react with grave symptomatic features, and the heart loses its normal strength and viability from the disorganization of its structures. Consequently there occurs a thinning of the heart wall, with subsequent edema of the feet and abdomen in the later stages of the malady. As a rule, the patients give a fairly constant story that tells of a slight shortness of breath following the slightest exertion, associated with mild substernal oppression, occasional orthopnea and a rapid pulse rate. Physical examination usually discloses a normal blood pressure and a rapid pulse of 80-90 beats per minute, with varied types of irregularity. Soft systolic murmurs are generally present. The cardiogram indicates a myocardial weakening. The heart failure rapidly progresses to more serious stages and within a period less than two years, death occurs from angina, congestive pneumonia, or sudden cardiac failure.

MANAGEMENT AND TREATMENT

The patient should be placed absolutely at bed rest and given a well balanced, judicious diet containing essential vitamins. Heart failure should be encountered with progressive digitalization. Iodides and mercury can then be given, but very minimum dosage. Bismuth is of distinct benefit, so far as the present experiments would indicate. Salvarsan or any of the arsenicals are positively contraindicated until all serious symptoms have abated, and then should be administered with every caution, and in smallest quantity. To give a myocardial syphilitic salvarsan in the early stages of heart failure is as dangerous to his health and

life as the untreated bite of a rabid dog would be. There is another phase of the syphilis problem in relationship to heart syphilis that needs special emphasis, and that is that every physician should think more of the eventual effects of syphilis to his patients instead of concentrating on the chancre. Thorough treatment for three or more years in the primary stages of syphilis will do much toward protecting the heart from involvement later in life.

PUBLIC HEALTH ASPECTS

Syphilitic heart disease is common in communities that have a high incidence of syphilis. As nearly as I can determine at present, 20 per cent of syphilitics also have heart syphilis. In white people the incidence is not as high as in the negro. Males have the disease twice as often as females. Studies from a series of cases indicate that while the heart may become affected quite early after infection, most often cardiac symptoms occur seven years after the primary lesions. As a rule, cardiac syphilitics range in the age group between 20 and 50 years. recent survey of the syphilis problem by Usilton, Hunter and Vonderlehr, in Chicago, gives a good idea of the incidence in larger cities of the United States. These gentlemen found 14, 350 syphilities constantly under medical care in Chicago, and that syphilis was eight times more prevalent in the negro than in the white population. They further observed that 59 per cent of those affected had acquired syphilis before the age of thirty. Also they noted that 5 per cent of the number had cardiovascular syphilis, and of those 82 per cent had no treatment prior to the occurrence of heart disease. One can further appreciate the appalling situation when we remember that there are about 423,000 persons seeking treatment for syphilis annually in this country, and that we have nearly 650,000 old cases under observation constantly, a total of 1,073,000 persons. If 5 per cent, which is a low figure in my estimation, have heart syphilis, then we have 55,650 persons ill with the malady. This is an embarrassing situation when we recall that the disease is a preventable one.

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Detached Retina and Spindle Cell Sarcoma of the Choroid

CASE REPORT

E. W. CARPENTER, M. D., F. A. C. S., GREENVILLE, S. C.

History—February 4, 1938, Miss C. H., age twenty-nine, white school teacher. For four weeks has noticed a cloud in part of the visual field of the right eye. Recently has to turn head to one side to see clearly. Five years ago was run over by a bicycle and the right eye was badly bruised, did not notice any failure of vision following the accident. Has consulted two eye doctors recently and the diagnosis of detached retina was made. No serious illness previous to this. S. P. Vision right eye 20/200.

Vision left eye 20/20.

Pupils react to direct and indirect light, consensual movements equal in all directions, globes quiet. Inspection of fundus of right eye shows a clear vitreous, extensive detachment of retina, macula pigmented, fovea not apparent, tension twelve Schoitz. The fundus of the left eye was normal. Slit lamp examination of the right eye revealed no pathology in anterior segment of the globe. Wassermann, urine and blood pressure normal. Field study of the right eye showed a loss of upper field and one third loss of the lower temporal field

with a loss of ten to fifteen degrees in the rest of the periferal field. The macula was not detached. A careful study of the fundus revealed waves, ridges and movements in the detached retina except in the three o'clock region. Here the retina was smooth, but elevated without motion. The retinal color was pink throughout, but it had lost some of its translucency, no hole in the retina could be demonstrated. Transillumination revealed a slight loss of transparency over the smooth retinal area.

Discussion-There was no doubt as to an extensive detachment. How could we account for the area of the retina which was smooth, of fair color and slightly elevated above the rest of the detached retina? The first condition which suggested itself was a tumor and the type of growth in that location would most probably be a melanotic sarcoma. If this was the case, transillumination should show a very dark area and in this case the opacity was only moderate. The next suggestion was a localized choroidal hemorrhage. Her age, condition of her blood vessels, normal blood pressure, negative Wassermann, normal urine and blood count and lack of pain were all against this suggestion.

The character of an intra ocular tumor can not be determined by the Ophthalmoscope. If fair vision is present, observation from time to time may be made to estimate the progress of growth. If one decides that a growth is progressing the tumor must be treated as if malignant and the globe removed.

With a detached retina the evidence of a growth is obscured, in uncomplicated detachment of the retina the tension is generally lowered. In the presence of a growth and a detached retina the tension is low until the growth assumes a generous proportion and then it rises.

Transillumination is very definite and valuable as a diagnostic measure. In making a diag-

nosis of sarcoma of the choroid, several conditions must be reckoned with viz:—syphilitic choroidal exudate, cysticercus, tubercle of choroid and retina, choroidal hemorrhage, localized dilated cilliary veins is also suggestive of a tumor.

We decided to operate for detached retina, but first to explore the suspicious area and to that end a cautery point was passed thru the mass and there was no alteration in elevation of the retina. The cautery point gave the impression of being in solid tissue. We enucleated the globe and inserted a glass ball. The pathological report on the globe was to the effect that the mass was a spindle cell sarcoma with very little pigment. This lack of pigment in the growth explains its failure to cast a dense shadow on transillumination.

Deep X-ray therapy was applied over the orbit. This caused considerable shrinkage of orbital fat. After five years if there are no contra indications, fat can be planted in the orbit in order to improve the cosmetic result.

Laboratory report-Right eye-Looking over the external surface of this eye it is essentially negative. On cutting the eye after hardening, the anterior chamber and lens are negative. At the back of posterior chamber, there is a tumor 1.5 x 1.2 x 1 c. m. that has pushed the retina in folds in front of it. The surface of the tumor is brown, does not appear grossly to be invading the sclera, but attached to it. The growth is soft, light brown in color. Is grossly a Sarcoma. Section shows the structure to be a spindle cell growth, these in bundles of broad cords running in several places, there are melanotic cells scattered through this growth and on the surface and at the base. The origin of the growth was in the choroid coat, and is a malignant tumor. The tumor was only slightly pigmented.

Laboratory report by Dr. T. R. W. Wilson, General Hospital.



Message From Our New President

To The Members of The South Carolina Medical Association:

The time was never more propitious for an organized medical group in South Carolina to lead and instruct the public than now. When there are reports and in some instances threats of governmental control of medicine; when the medical profession is being assailed in magazines, and newspapers, and by radio by government officials and socialists and editors; when a large percentage of physicians are labeled incompetent by one of our own profession; our answer must be an aroused, organized profession seeking to improve ourselves in scientific knowledge and accomplishments and exerting every effort to enlighten the people in what the medical profession of today is doing and intends to do towards providing better medical care.

It is with this challenge facing us that I am now trying to formulate a program which will lead us into newer and greater activities. I beg the cooperation and assistance of every member of organized medicine in South Carolina.

Faithfully yours,
DOUGLAS JENNINGS.



Retiring President's Address

J. R. DES PORTES, M. D., FORT MILL, S. C.

Gentlemen:

We are celebrating the 91st anniversary of the founding of our Association. During these years many changes have taken place. Our first President in making his address spoke to doctors and surgeons and in those days these men did all of the surgery as well as the practice of medicine, mixing the medicine they prescribed, pulling teeth, looking after public health, etc. From what I can find they spoke a language every one present could understand. Specialism, Pharmacy and Dentistry were unborn.

Today we have every department you can imagine and medical affairs are wonderfully divided. In those days a doctor was the leader in his community, loved and respected by all. Today think how things have changed. State Medicine, Medical Economics, Laymens Committees or the Womens Councils were unknown when I was given my diploma but we were taught ethics and if we would follow the Golden Rule and live up to the ethics every man in our ranks would be a better man, more loved, honored and respected than those who think more of driving a bargain than of following in the footsteps of the great Physician and using our efforts to heal those who put their trust in us.

Since my time as President is fast closing, I want to appeal to each and every one of you to stay in the ranks of organized medicine and in every way possible keep its banners flying. Live up to the ethics of the profession, make it better than when you entered it and if we do this and stand united we have nothing to fear from politicians or wolves howling at us from all sides. But fail in this and lower your standards and it is only fair that we shall have some one dictate to you how and when and what type of work you shall do.

I want to assure you I appreciate the honor of being a member of this body, of serving for many years on its Council, of the great honor of serving as its President. My work has been pleasant and I want to thank every one of you for the help you have given me and the many courtesies shown me on every side. Without it I should have failed. I succeeded one of the best of our Presidents. I have tried as best I could to carry on where he left off. I wish my successors every good wish and my earnest prayer will be a better Association of better men than in the past. Hoist your banner high. Remember the ethics of our profession and follow in the foot steps of the great healer and the future will be bright and every cloud will have its silver lining.

May every good wish and his richest blessing follow each of you always.

Delivered before the South Carolina Medical Association, Spartanburg, S. C., April 12, 1939.



William Lowry Pressly, M. D., President-Elect South Carolina Medical Association, Due West, S. C.

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GREENWOOD COUNTY MEDICAL SOCIETY MOVES FORWARD

One of the rapidly developing sections of the State is Greenwood County and the medical profession is keeping step with this splendid progress there. Under the presidency of Dr. C. J. Scurry the County Society has taken on renewed activity by enlarging their programs each month and inviting distinguished speakers from other states to participate in their procedings. The meeting held on Tuesday night, April 25, featured addresses by Dr. Lansing Lee, Professor of Medicine at the University of Georgia and Dr. R. C. MacGahee, Associate Professor of Pediatrics at the same institution. The meeting was held at the Country Club and there were a large number of guests from surrounding towns.

The Greenwood County Society has in its membership now two officers of the State Medical Association, Dr. C. H. Blake, Vice President and Dr. J. D. Harrison, Councilor of the Third District. Dr. H. G. Royal is the new Secretary of the County Society.

SOME REFLECTIONS ON THE SPARTANBURG MEETING

The Ninety-First annual meeting of the State Medical Association held at Spartanburg measured up to the expectations in a grand way, the attendance exceeding four hundred all told including thhe Woman's Auxiliary. President Des Portes presided in a most efficient manner and kept everything moving in an orderly fashion from beginning to end. The guest speakers added tremendously to the keen interest of the occasion. The House of Delegates transacted a large amount of business owing to the many committees now working under the direction of the State Medical Association. The scientific program drew close attention on the part of the members throughout the convention. Many new surgical procedures and therapeutic advances were brought to the attention of the profession showing that the South Carolina doctor is well to the forefront in his calling. Too much praise cannot be accorded the members of the Spartanburg Medical Society, the Woman's Auxiliary, and the citizens generally for their cordial hospitality.

President Des Portes is to be congratulated on his splendid record as the head of the medical profession in South Carolina. During the

year of his presidency he was called upon to face many important issues in the interest of the health of the people of South Carolina and the welfare of the medical profession. He discharged all of these duties in a most commendable spirit. He steps out of the presidency it is true and back into the ranks but by no means into inactivity. He will continue to give of his very best to the South Carolina Medical Association. He has shown a deep interest in medical education in South Carolina; indeed to such a degree that he was promptly elected President of the Alumni Association of the Medical College of the State of South Carolina.

Dr. Douglas Jennings takes over the gavel as President of the Association and he is fully qualified to lead us into still larger avenues of progress. Dr. Jennings has had a long and varied experience in organized medicine. He is still a young man and this background will serve him well in connection with his plans referred to elsewhere in this issue.

Plans are already under way looking toward the Charleston meeting in 1940. There is never a dissenting voice when the invitation comes to visit the City by the sea. We predict that the session to be held there will be a record breaker from every standpoint.

DR. WILLIAM LOWRY PRESSLY, PRESIDENT ELECT
S. C. MEDICAL ASSOCIATION

The elevation of Dr. Pressly to be President Elect of the South Carolina Medical Association is an honor well deserved and comes after many years of service to organized medicine in South Carolina and other states. Dr. Pressly's genial personality wins for him everywhere a spontaneous feeling of friendliness on the part of those with whom he comes in contact. Dr. Pressly has a fine record as a member of the Council of the South Carolina Medical Association. He was elected to this office in 1931 and was repeatedly re-elected for a number of terms or as long as he would consent to serve. The splendid activities of the Third District reflected the keen interests of Councilor Pressly at all times. Dr. Pressly is one of the best known general practitioners in the state. For many years he has been prominent in educational circles by virtue of his official connection as physician to the institutions of learning at Due West.

Dr. Pressly was born December 2, 1886, the son of Professor John L. Pressly and Josie Le Gal Pressly. He was educated in the public schools of Due West and at Erskine College, graduating from the latter June 1907. In the fall of 1908 he entered the Medical School of Emory University, graduating in 1912. After spending three years as an Interne in the Jefferson Hospital, Roanoke, Virginia, Dr. Pressly located in Due West in 1915 practicing in partnership with the late Dr. J. R. Bell. During the World War Dr. Pressly served in the Medical Corps of the United States Army. He has spent part of two summers in special study in Dr. Lahey's Clinic, Boston, Massachusetts.

OBSTETRICS AND GYNECOLOGY

J. D. GUESS, M.D., GREENVILLE, S. C.

ORGANO-THERAPY EMPIRICAL OR SCIENTIFIC?

Not many years ago the therapeutic use of dried extracts of the various endocrine glands was seemingly firmly established. Around it was built up an extensive literature. The sale of these substances was enormous. Now with scientific methods of assay, it is generally recognized that these substances with the sole exception of thyroid extract, are worthless and without worthwhile potency.

Not many years from now, it is the editor's prediction, a similar charge of worthlessness, and in some instances even of harmfulness, can be made with regard to the use of many of the more potent newer preparations of glandular substances or harmones which are so widely used today. Already the literature dealing with organo therapy is in a constant state of change, concepts being discarded or changed so rapidly that it is impossible for one to follow the changes.

There are several causes for this difficulty. True it is that there is a progressive knowledge based upon scientific observation, so that constant study is required to keep up with new facts. However, much that is being written and talked is not scientific fact, but is theory, concept and speculation. Here lies a great difficulty, for it requires careful reading to segregate fact from theory and one is likely to accept theory for fact.

In this there are encouraging factors urging one on. The helplessness one feels when confronted with little understood functional derangement, prompts one to grasp any thing advanced as a useful agent. The biological manufacturers, in their desire to spread the tremendous cost of their experiments and of the manufacture of endocrine products, are quick to present in their literature all suggested, and often highly speculative, therapeutic uses of these products in an alluring manner, so that the unwary is likely to accept theory and speculation as proven fact.

The manufacturers cannot be too harshly criticized for this, for apart from their need for money to carry on experimentation and to finance clinical trial under scientific control, it is no doubt difficult for them always to segregate clinical fact, based on controlled observation, from the presentation of more or less pure speculation as if it were fact, and that by men whose statements should be authoritative.

A study of the section on endocrinology in the Year Book of Obstetrics and Gynecology for 1938 clearly illustrates the truth of the last The articles abstracted are filled statement. with contradictions and misstatements, and vet they emanate from sources which warrant their publication in leading medical journals and in this carefully edited and authoritative handbook. When authorities disagree what should be the attitude of the editors of the house organs of manufacturers who make these substances to sell and who have spent great sums of money in perfecting their isolation, purification and standardization, and what should be the attitude of you and me who need so badly drugs which will do what some of the authorities insist that they will?

À comprehensive discussion of this question which has ethical, moral and scientific ramifications cannot be undertaken, and only several observations will be made. Before undertaking the clinical application of the newer endocrine facts and fancies, one should at least be reasonably familiar with known facts and generally accepted theories of the interrelationship of the several endocrine glands and the physiological functions of each gland. Then he should so study his cases, that he can formulate a reasonable idea as to the underlying endocrine disturbance. He should be familiar with the alleged active harmones of the various preparations which he contemplates prescribing and should attempt to fit the action of the harmone of the selected product in a rational manner into the pattern of disturbed physiology as he has conceived it to be. At

best he will make many errors both in diagnosis and in treatment, and many times he will not be able either to map out the disturbance in function or to fit into the picture any known harmone.

The distinction between observations made and results obtained in experimental animals and those in man must be closely borne in mind. The serum of pregnant mares, containing a high concentration of gonadotropic substance, will soon be made commercially available. Its value in functional menometrorrhagia associated with failure of ovulation, amenorrhea associated with non-maturation of the follicle, and sterility because of non-ovulation is immediately suggested. The serum is said to produce follicle growth, ovulation and luteinization in ewes. Hartman warns that the substance converts the ovaries of monkeys into large masses of corpora lutea. Siegmund found at operation upon women who had received mare's serum numerous follicles, without luteinization and warns against the possibility of excessive follicle stimulation. found it of no value in menometrorrhagia due to anovulatory ovarian failure. Davis and Koff found, after the administration of mare's serum to women that only half ovulated once or more, and most of those who did so were women with normal ovarian activity and periodic ovulation. It would appear that the gonadotropic substance of mare's serum is far more active in ewes and in monkeys than it is in women.

One who would intelligently prescribe endocrine products must also familiarize himself with what in each instance is adequate dosage. The various kinds of units used to designate the amounts of active harmone is very confusing. Furthermore, because of their costliness, most of these products are marketed in varying strengths, and the lower strengths frequently contain such small amounts of the harmone as to be of little if any value.

Empiricism, then in the clinical use of commercial endocrine products is easy, but it is slovenly, frequently disappointing, and always costly to the patient. It is frequently misleading as well, for often readjustment of the endocrine balance occurs spontaneously, when it is erroneously ascribed to the treatment. Perhaps, at times the treatment hinders or such spontaneous readjustment. prevents Scientific organo-therapy, however, is possible to a fairly well defined and rather limited extent, and where possible is often marvelously effective.

EYE, EAR, NOSE AND THROAT J. F. TOWNSEND, M.D., F.A.C.S., CHARLESTON, S. C.

PARAPHARYNGEAL HEMORRHAGE

Dr. F. W. White and L. Hubert—Archives of Otolaryngology, 1939, p. 1

This type of hemorrhage has occured in several cases in the Roper Hospital Service and was found to be serious enough to warrant any helpful suggestions. As we thank Wyeth for his discovery of the carotid cervical anastomosis, so we feel grateful to Mosher for his investigations in the neck in relation to the pharyngo-maxillary space and inflammatory diseases. Salinger and Pearlman reported 10 cases. There were 6 deaths, 4 before surgical aid could be instituted. There were 5 cases of ligation of the common carotid artery and 1 of the jugular vein.

The common carotid was ligated a second time on account of a recurring hemorrhage. In this series of 6 cases, there were fortunately no deaths. The common carotid artery was ligated on two occasions, the external carotid artery on two cases and the ascending pharyngeal artery on one case. The internal jugular vein was not involved in any instance.

The Horner syndrome occurred once. Peripheral paralysis of the fascial nerve was observed in one case, without any signs of cerebral dysfunction.

In one patient there was concomitant diabetes and acidosis; one had scarlet fever.

Case 1. Boy 5 1/2 years old, admitted with scarlet fever, nasopharyngitis, pansinusitis and adenotonsillitis. Otitis media developed with

the need of a mastoidectomy, left side, on the 16th day of admission. On the 17th day there was profuse nose bleed and excessive bleeding from the mastoid wound. The nose bleed recurred that night. 12 days after the mastoidectomy there was epistaxis, bleeding from the mouth and much blood in the vomitus. On the following day an operation of the neck showed an intense inflammatory condition in the artery, glands and tissue. The external and internal arteries being massed in the inflammatory tissue. The left common carotid was ligated. A swelling on the left pharyngeal wall appeared on the next day. It was aspirated with a large needle, and much fluid was massaged from it. The patient had from time of admission 6 transfusions, besides infusions of sodium chloride. Tonsils and adenoids removed 10 months later.

Case 2. A boy 15 years old, admitted, complaining of sore throat, difficulty in opening the mouth and stiffness of the neck on the right side. Examination revealed a slight swelling on the right pharyngeal wall, trisinus and a temperature of 103 F. The swelling increased in size and spread over the right anterior pillar into the soft palate. An incision into this swelling resulted in severe hemorrhages. On March 24 (11 days after admission) the right external carotid artery was ligated but the hemorrhages continued. Two days after the first ligation, the external carotid was again ligated, as was the ascending pharyngeal artery. The bleeding continued, not only from the throat but from the external auditory meatus. On March 28 the wound in the neck was reopened, "and an incision exposing the common carotid was made, and the artery ligated. There was only one more hemorrhage." Discharged, cured.

Cases 4, 5, and 6, have no special features. Anatomic and Diagnostic Considerations

The glands around the carotid may become enlarged and obstruct the circulation or break down and cause an erosion and hermorrhage, the resulting hemorrhage is for a time confined to the immediate neighborhood. "A severe hemorrhage may occur suddenly, or several small hemorrhages may procede a grave hemorrhage. Any hemorrhage from the throat, especially if repeated and if accompanying local

infection, should be looked on as a danger signal and appropriate action should be taken immediately."

"Besides the great blood vessels of the neck and the lymphatic glands, the pharyngomaxillary space contains the ninth, the tenth and the twelfth cranial nerve and also the cervical sympathetic trunk and its superior cervical ganglion, "and" in the parotid space the seventh cranial nerve. Every effort should be made to determine whether these nerves are involved, as such knowledge may be of great aid in making a diagnosis. However, such information is somewhat difficult to obtain because of trismus and the general condition of the patient."

"Involvement of the Sympathetic Nervous System, "may occur from" the extension of the infection of the pharyngomaxillary space, the superior cervical ganglion and its proganglionic and postganglionic fibers, resulting in Horner's syndrome, "which" syndrome is characterized by a constriction of the pupil, a drooping of the upper eyelid, a narrowing of the palpebral fissue. These signs are produced by a paralysis of the sympathetic fibers that are given off by the superior cervical ganglion and supply the dilator muscle of the pupil, the smooth muscle fibers in the lid, Muller's muscle and the blood vessels and sweat glands of the skin of the face. A case of pharyngomaxillary infection with paralysis of the ninth and the twelfth cranial nerve and the sympathetic trunk was reported by Gaston and Lemaitre. The peritonsillar abscess was incised and a large amount of pus evacuated. Five days later, severe hemorrhage occurred, indicating the erosion of a large blood vessel. The external carotid artery was ligated and the bleeding stopped."

Problems of Treatment

"Most frequently, the source of the infection is peritonsillitis. There are fever, tenderness in the cervical region and adenitis. If the infection is of such severity as to cause erosion of a large vessel in the neighborhood, blood escapes. At this time there may be marked although gradual, increase in the amount of swelling in the neck. If the pressure of the escaping blood is sufficient to force

the neighboring tissues inward, a mass forms on the lateral wall of the pharynx and extends upward to the soft palate, simulating a peritonsillar abscess. It may even pass downward toward the base of the tongue. These swellings are most frequently diagnosed as peritonsillar or lateral pharyngeal abscesses and are incised. A varying quantity of dark blood only escapes. This result should be a danger signal of vascular damage. A hematoma following incision of an abscess may give rise to a seepage of blood and should be given careful consideration."

"Next in importance to a history of pharyngeal infection is the presence of trismus. Trismus, "which" condition is due to a spasm of the internal pterygoid muscle, is not due to an actual infection of the space but to collateral edema. Trismus is conspicuous by its absence in cases in which peritonsillar abscess burrows down the posterior pillar and forms a mass on the lateral pharyngeal wall. If a supposed anterior peritonsillar abscess is incised and trismus is not favorably affected, it must be assumed that pharyngomaxillary involvement is present. If no pus but dark, bloody fluid appears, the patient should be hospitalized. Continued bleeding then indicates that deeper structures are involved, and ligations of the external carotid of the ascending pharyngeal artery should be done and a loose ligature placed about the common carotid artery. A hemorrhage from the external auditory canal or the eustachian tube practically always means erosion of the internal carotid artery and the formation of a false aneurysm. The ligation

should be done slowly. This is the crux of ligation of the common carotid artery."

"The external route of attack is the only one to be considered. One may operate with the patient under local or under general anesthesia. If general anethesia is to be employed the intratracheal method is the safest. It may be surprising to find involvement of the vagus nerve, which originates in the pharyngomaxillary fossa."

Conclusions

- "1. An effort should be made to determine the status of the nerves in the pharyngomaxillary space.
- 2. Conservative treatment of pharyngomaxillary infection is in many instances successful.
- 3. Ligation of the common carotid artery, when it is done slowly-in minutes, not seconds—is a life saving operation, as compared to temporizing methods of operation by the intrapharyngeal route.
- 4. Hemorrhages from the throat and the ear associated with trismus involvement of nerves as noted, lateral pharyngeal tumefaction, sepsis and swelling and tenderness of the corresponding side of the neck indicate infection of the pharyngomaxillary fossa."
- 5. When to ligate has to be determined in these cases, just as in other surgical procedures, but a ligation will prevent cases that otherwise may continue to bleed until they die.

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ATLANTA, GA.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. W. H. Kelly Feb. 10, 1939 ABSTRACT NO. 385 (43206)

Student Bell, presenting.

Admitted Sept. 23. 1937; died Oct. 16, 1937.

History: The patient, a 60 year old colored man, was admitted with the complaint of "paralysis of legs." Present illness began 3 weeks before, at which time, the patient first noted weakness in his right leg. Soon afterward, the left leg also became weak. Concomittantly, he noted pain in his back which radiated to either side and was of a constant dull aching character. The patient stated that his lower extremities felt numb; he was able to walk with increasing difficulty up until about two days before admission. Also complained of difficulty of micturition. At time of admission was neither able to walk or exercise control over bladder function. Past history was not pertinent.

Physical: Examination of the head and neck was essentially negative. The lung fields were clear to percussion and auscultation. The apex beat was in the 5th i. c. s. 3" to the left of the midline. Cardiac rate 68, rhythm regular, sounds of good quality and no murmurs were heard. B. P. 125/85. Examination of the abdomen revealed no palpable organs or masses; there was no tenderness to pressure. There was urinary incontinence. Neurological examination revealed absence of the abdominal reflexes, knee and ankle jerks. There was loss of pain, temperature and vibratory sense over the hip girdle and lower extremities. There was also unequal loss of light touch perception. There was flaccid paralysis of the lower extremities.

Laboratory:

Urinalysis: (9-23-37) Examination of one specimen revealed no noteworthy findings.

Blood (9-23-37)

Нь 65%

WBC 4,600

Polys. 66%

Lymph. 33%

Fos. 1%

Serology (Blood)

Kolmer 4 plus

Kline 4 plus

(Sp. Fluid)

Kolmer 3 plus.

Spinal Fluid

On 9-17-37, fluid was xanthochromic, showed globulin 4 plus and a cell count of 8 (lymphocytes).

On 10-1-37, fluid was xanthochromic, showed micro-

scopic blood and a cell count 97 (lymphocytes). Colloidal gold test showed a meningitic curve.

Course: Patient's general condition did not improve. Spinal fluid pressure showed a slow but marked rise on jugular compression. About 2 weeks before death the temperature became elevated and the pulse rapid. Later became quite drowsy, then stuporous. Developed decubitus ulcers over bony prominences of posterior pelvis. Died 10-16-37.

Dr. Kelly: (presiding) Mr. Kinder, will you open the discussion?

Student Kinder: On examination this patient showed certain definite signs of diagnostic importance. He had a marked weakness in both legs which was progressive in character and which had come on rather acutely. Also there was an associated difficulty in micturition. Both his blood and spinal fluid wassermanns were positive. A tumor pressing on the lower segments of the cord and involving the parasympathetic centers could account for all these changes. Because of the serology, his high spinal fluid cell count and his subsequent course, I believe the tumor is probably a gumma.

Dr. Kelly: How would this fit in with the sensory disturbances?

Student Kinder: Loss of pain and temperature as well as disturbance of vibratory sensations of the lower extremities could be involved with this lesion as well as his pyramidal tracts. The posterior co'umns controlling vibratory and sensory position of space are frequently involved in cord syphilis and may be due to either a meningeal or vascular syphilitic lesion.

Dr. Kelley: Mr. Jervey, are there any other conditions?

Student Jervey: I think the positive Quackenstaedt sign proves the presence of an obstructive lesion in the cord and neoplasm or an inflammatory tumor might account for this. Neurofibromas occasionally cause compression of the cord but they are also frequently associated with similar lesions of a similar nature elsewhere in the body. An aortic aneurysm might possibly erode the bone and involve the cord but it would have to be an extensive lesion. I think a gumma involving the cord is far more likely.

Dr. Kelly: Is there any other vertebral lesion that could cause compression of the cord?

Student Jervey: Yes, tuberculosis may cause destruction of the bone but it is usually associated with pain and typical X-ray findings. The X-ray of the spine in this case showed only hypertrophic arthritis.

Dr. Kelley: Mr. J. H. King, can you add anything to the discussion?

Student King: There may be an osteoma or even a sarcoma of the bone but this should be accompanied by typical changes in the X-ray film.

Dr. Kelly: Mr. Pratt, what are your ideas?

Student Pratt: We have to rule out meningomyelitis and chronic obstructive arachnoiditis. The latter may follow trauma, of which we have no history. In view of the spinal fluid findings and the rapidity of development, I would think it were a meningomyelitis

Dr. Kelly: Mr. McGraw, will you interpret the final events?

Student McGraw: The decubitus ulcers may be produced by involvement of the peripheral nerve trunks as they emerge from the cord, due to a syphilitic involvement of the meninges. Trophic ulcers are frequently found in association with destruction of sympathetic nerve fibers. I cannot explain his drowsiness.

Dr. Kelly: Mr. Livingston, what do you think?

Student Livingston: I understand a patient with lesions of this type frequently develops an intercurrent infection of pneumonia or genitourinary involvement with loss of bladder tone following a cord lesion. There is considerable urinary stasis and an ascending pyelonephritis is common.

Dr. Kelly: Mr. Kinder, do you agree with that? Student Kinder: He may have had an ascending infection of his urinary tract with uremia. This would account for his terminal drowsiness.

Dr. Kelly: (to staff) Does anyone else care to

discuss this case?

Dr. Kredel: If the history is at all reliab'e I think we can rule out a cord tumor because of the rapidity of its course. In a man of this age a metastatic carcinoma may cause collapse of a vertebral body with pressure on the cord. X-ray findings are against this. I think in view of his serology. a luetic endarteritis involving the spinal vessels with cord softening is the best diagnosis.

Dr. Lynch: We can settle the question of the cord lesion but we do not know why he died at this particular time. Perhaps a septic state from a gangrenous bed sore was responsible for his terminal course. He had however, no inflammatory lesion of the kidney and no other morphological evidence of sepsis. At the level of the eighth dorsal vertebra, cut sections of the cord show marked degeneration of both gray and white matter, which was visible even in a fresh state. A small nodule was present on the inner surface of the dura and there were several adhesions to the arachnoid and pia at this level. The patient had a syphilitic aortitis. The bladder showed only minor infection and there were no other significant lesions at autopsy. Grossly I thought this lesion to be gummatous in nature involving the dura with a secondary myelitis of the cord.

A microscopic slide of the dura was then shown and Dr. Lynch demonstrated a gummatous lesion with central necrosis exerting pressure on the cord substance proper. Also there was some degeneration of the fiber tracts.

INTERESTING CASE REPORTS FROM ROPER HOSPITAL

For some time a plan has been under way to present to the physicians of South Carolina case reports from the teaching hospital at the Medical College giving in detail the methods pursued in the wards there. It is hoped that this presentation may be of service to the busy doctor in his practice.—Editor.

THE TREATMENT OF TETANUS

V. Wells Brabham, M. D., Roper Hospital

The treatment of Tetanus resolves itself into four main procedures; local treatment of the wound, neutralization of the toxin by specific serum, prevention of muscular spasm and convulsions, and maintenance of nutrition.

The local treatment of the wound is important. It should be debrided, some cases being done better under a general anesthetic. Regional anesthesia is ideal when possible. Analgesia by local infiltration is not advised. All foreign bodies and devitalized tissue should

be removed, and infection combatted. Cauterization is contraindicated because it results in devitalization and coagulation of tissue and defeats the purpose. An infected wound should be opened widely. Even an apparently healed wound should be opened. Small wounds may be excised. One should realize when he is doing these things that it is not without danger because he may be breaking down nature's barriers and exposing wide areas of absorption. Antitoxin is frequently given around the wound. The dressings should be changed frequently, and nothing should be put on the wound to produce anaerobic conditions. Potassium per-

manganate or hydrogen peroxide may be used.

There are four routes by which the antitoxin may be given: intravenously, intramuscularly, intrathecally and subcutaneously. routes we advocate are the first two. Injections into the spine are best avoided; the serum causes a chemical meningitis. There is no convincing evidence showing the safe minimum dose. We had one case which recovered on 21,000 units; but this may have been one of the cases which would have recovered with no antitoxin. It is probably better to give 100,000 to 250 or 300,000 units, including 100,000 within the first 24 hours. The antitoxin is given in the first three days. A "safety" dose of 10,000 to 20,000 units may be given on the 7th or 8th day. The toxin that is already bound cannot be touched; it is that which is on its way to the nervous system that is neutralized by the antitoxin.

Since it is during a convulsion that death frequently occurs the necessity of prevention of muscle spasm is obvious. The room should be moderately dark and absolutely quiet in order to prevent external stimuli from reaching the patient. Various sedatives have been used, such as, magnesium sulphate, luminal, amytal, nembutal, bromides, chloral and avertin. Much has been written recently about the good quali-

ties of avertin. Care should be taken not to give too large doses and thus keep the patient depressed too much. About 60 to 70 mgs. by rectum o. lcc. avertin per kilogram body weight is usually adequate and may be repeated as needed. Avertin has not been met with favor in the pediatric department. In children the sedative found most reliable has been 25% solution of magnesium sulphate intramuscularly in doses of 1/10 to 2/10 c.c. per pound of body weight, repeated in 3 to 6 or 8 hours as needed. The dosage of any sedative must be determined by the individual case. The patient should be kept somewhat relaxed but he must not be too much depressed and thus invite pneumonia.

Fluid, salt and caloric requirements must be met. The patient may be able to take fluid himself. Fluids and food may be given through a Levine Tube passed through the nose to the stomach. A tube passed just into the esophagus may deposit liquid so close to the larynx that it may be aspirated into the lungs; it is obvious that this should be avoided. Supplementary fluid and saline and glucose may be given intraveneously if needed.

Bowel elimination may be stimulated by enemas and mild laxatives.

SURGERY

WM. H. PRIOLEAU, M.D., F.A.C.S., CHARLESTON, S. C.

TREATMENT OF POSTOPERATIVE PULMONARY ATELECTASIS

Pulmonary atelectasis or collapse is one of the more common postoperative complications. Until the condition became more generally recognized, no doubt many such cases were mistaken for pneumonia. Its successful treatment is dependable upon its early recognition, and both upon an understanding of the underlying process.

In a recent article in Surgery (5:420, March '39) A. E. Moore of Cincinnati considers the subject from a standpoint of etiology as well as treatment. The concensus of opinion is that the primary factor is a plug of mucus obstructing

a bronchus. The air in the lung distal to the obstruction becomes absorbed, resulting in atelectasis. Numerous contributing causes are recognized such as respiratory infection, recumbency, dehydration, limited respiratory movements, and suppression of the cough reflex by drugs. The clinical picture is that of a sudden difficulty in respiration and elevation of temperature. There is limited excursion of the affected side with a shift of the mediastinal structures toward it. The breath sounds are absent or greatly diminished over the involved area. X-ray is of great assistance in diagnosis.

Various forms of treatment are considered. The mucus plug may be removed by bronchoscopy, but there are various disadvantages to this procedure in the average post-operative case. Artificial pneumothorax on the affected side has given good results. However it has not met with general acceptance.

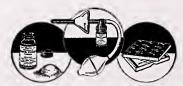
The usual practice is to attempt to dislodge the mucus plug by forceful respiration and exciting a cough. In a great many instances this suffices. The author points out that the effectiveness of these measures is greatly increased if combined with appropriate posture of the patient for gravity drainage of the main bronchus. The position most suitable for this is obtained as follows: (1) Raise the foot of the bed. (2) Turn the patient so that the affected side is uppermost. (3) Incline the patient slightly forward upon the abdomen. Appropriate measures are then used to produce coughing. The plug of mucus is generally loosened and expelled. The patient is encouraged to continue coughing until rhonci can no longer be felt by the palpating hand. With this method the author reports consistently good results in cases in which the diagnosis is made early.



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SOCIETY REPORTS

THE COASTAL MEDICAL SOCIETY

The Coastal Medical Society had it's monthly meeting in Beaufort, S. C., on March 17, 1939. The meeting was called to order by Dr. J. B. Johnston, our new President for the coming year; minutes of the previous meeting were read and approved.

Dr. Johnston acknowledged the presence of a number of visitors, and especially Dr. Freeman of the Medical Department of Johns Hopkins University, also Dr. and Mrs. R. W. Geise and Dr. C. W. Virtue of the U. S. Navy. He extended to them the privilege of the floor.

Dr. Johnston then asked if anyone had anything to say regarding the new Medical Health program for the Government Farmers. Drs. Preacher, Black and Johnston stated that the plan had been accepted in their counties and was ready to start. As yet no one would predict just how it would turn out.

Dr. Richard Johnston was asked to present his subject to the society. Dr. Johnston read a paper on typhoid fever, giving a general summary of the various aspects of the disease, and stressing in particular Pathology, Complications and Prophylaxis. This subject was discussed at length by Drs. Freeman, Elliot, Brown, Guyton and Foster.

Dr. Thackston of Orangeburg was then presented to the society and read a very interesting paper on the "Newer Forms of Sulfanilimide." This subject was interesting and discussed by Drs. Bennett, Brown and Preacher. Both papers were thoroughly enjoyed.

Dr. Black then gave a very interesting case report, the diagnosis as yet undetermined, and Dr. Black stated, by the way, that this is one case that recovered in spite of the doctor. The report was discussed and enjoyed by all.

St. George was chosen as the next meeting place. The Society will not meet until June, because of State and District meetings in April and May.

There being no other business the meeting adjourned followed by dinner at Anchorage.

A. R. JOHNSTON, Secretary.

YORK COUNTY MEDICAL SOCIETY

The York County Medical Society met, February 23, 1939, at the Chamber of Commerce Hall, Rock Hill, S. C. The meeting was called to order by the President, Dr. D. A. Bigger. Minutes of the previous meeting were read and approved.

The program was as follows: Dr. S. H. Shippey, Rock Hill, S. C., gave a paper on Pneumonia and the Treatment with Serum. He brought out the good results that were being obtained by the use of Sulfapyridine in some of the larger clinics. Dr. Shippey also presented a case of Contact Dermatitis. Dr. W. B. Ward presented two cases of unusual Intestinal Obstruction. Dr. S. G. Love gave a paper on Appendicitis. Dr. E. E. Herlong presented an unusual case of Kidney and Ureteral Calculi. These papers were discussed by members of the Society.

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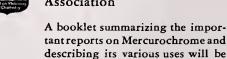
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The General Problem of the Thymus Gland*

George D. Johnson, M. D., Spartanburg, S. C.

Contrary to prevailing opinion, very little definite knowledge of the thymus gland exists. Opinions vary as to its origin, its function; i. e., whether it is a gland of internal secretion, or simply a lymphoid structure; the danger, if any, of treatment by X-ray; the question of whether or not status lymphaticus exists as a pathological entity, and other points of less importance. It is to present a few of the facts and theories concerning this problem that this article is written.

Embryology and Histology

The thymus gland develops usually as a bilobular structure from the ventral portion of the third and sometimes fourth gill arches. The two lobes are divided into macroscopic lobules which are further divided into darkly staining peripheral cortical area and a lighter staining medullary portion. The cortex is made up of densely packed lymphocytes or sometimes preferably called thymocytes. The medulla consists chiefly of reticular cells similar to those of the cortex. The medulla also contains Hassall's bodies which are characteristic of the thymus gland. The medulla is more vascular than the cortex. Most of the reticular cells of the thymus are of entodermal origin although there are a few mesenchymal reticular cells about the blood vessels. In the embryo, the epithelial origin of the reticular cells is quite obvious (2).

Physiology

The function of the gland is unknown. Until recently, no promising results had been obtained with extracts. "Thymocrescin," developed in 1932, is an aqueous extract of the thymus which when given daily, overcame the loss of weight of animals on a vitamin It stimulated growth, overcame vitamin deficiency, and increased the size of the gonads. Another acid aqueous extract of the thymus, "karkinolysin," when injected daily into white rats resulted in heavier animals which bred more frequently and had larger litters of heavier average weight per rat. In subsequent generations precocity was evident. Similar results from thymus feeding could not be obtained. From a chemical study of the blood it was found that the blood calcium and phosphorus content were definitely elevated. X-ray of the bones of the treated animals showed them to be larger, that the centers of ossification develops and unite earlier. These two extracts are the only ones which have shown promising results (1).

In carefully controlled experiments it has been shown that removal of the thymus of the dog does not result in death and does not produce any detectable alteration in the hair, teeth, contour of the body, muscular development, strength, activity or intelligence of the experimental animals (4). It is possible that extirpation may cause retardation in development and delayed closure of epiphyses though

^{*}From the Department of Pediatrics, Medical College of South Carolina, Charleston, S. C.

probably it does not. Removal of the thymus probably produces no change in the glands of internal secretion except possibly immediately following thymectomy. In pigeons it has been shown that removal of the gland did not affect body growth (5). No consistent difference was found in the weight of testes, ovaries, thyroid, liver or spleen in operated and control pigeons. No difference was observed in bone abnormalities, basal metabolism, health and appearance. There was no effect on the time or age at which the females became sexually mature. Eggs produced were quite normal. Following the removal of the thymus in white rats, investigators (6) concluded that total removal of the gland at an early age was not necessarily followed by modifications of the normal development, nor by characteristic changes in the skeletal system.

So far as is known, no deleterious effect results from X-ray therapy of the gland in infants. Thirty-one patients, who had received irradiation over the thymus prior to 1924, were reported in 1936 as showing no apparent retardation of physical growth or mental development (7). This is no assurance, however, that later generations may not be adversely affected because, as it has been mentioned above, the effects of injecting one of the extracts into rats did not show themselves for several generations.

Although definite evidence that the thymus has an internal secretion is lacking, it is affected by a number of other factors inside and outside of the body. During starvation, acute infections, and intoxications it undergoes involution. In so-called status lymphaticus, after gonadectomy in early life, its normal involution is delayed. In exophthalmic goitre, acromegaly, Addison's disease, and following suprarenalectomy it may regenerate. These facts indicate that in some, so far, unknown manner the thymus gland is associated with normal nutrition and growth up to sexual maturity (3).

Anatomy

The thymus in infants born alive is elongated and molded so that its anterior, lateral, and posterior surfaces bear all the impress of the surrounding structures. This change from the broad fetal type of thymus is said to take place when respiration begins and the gland is compressed laterally by the lungs (8). The gland may be forced between the great vessels to and from the heart and not infrequently involves the recurrent laryngeal nerve. The same effect may be obtained if the thymus is of normal size and the inlet of the thoracic cage is smaller than usual. No normal weight or size for the thymus gland in children has ever been arrived at, even after extensive investigation. It is larger in the male for the first four years, then about equal in the two sexes to eleven years, then larger in the female. As far as weight is concerned, the thymus gland acts like lymph tissue and reaches its maximum growth at about eleven years. The average weight roughly speaking is thirteen grams at birth, twenty grams at six months, thirty-five grams at puberty, and fifteen grams at fifty (10). It may be seen that the most rapid growth occurs between birth and six months.

Symptomatology

The symptomatology of enlarged thymus varies with the individual case. In 213 cases, there were 148 boys and 65 girls (12). diagnosis is quite often wrongly made on clinical evidence (9). Deformity, or disease of the larynx, less often atelectasis, congenital malformation of the heart, and even tetany have been wrongly diagnosed as enlarged thymus. Other conditions that may simulate enlarged thymus are: Opaque and non-opaque foreign bodies, retropharyngeal abscess, tracheal or laryngeal stenosis, recurrent laryngeal paralysis, relaxed upper respiratory soft tissues, asthma, and meningitis (11). Among the more common symptoms are paroxysmal or dry and hacking nocturnal cough, intermittent inspiratory stridor, dyspnea, usually remittent, choking while nursing, attacks of cyanosis, hoarseness, and a crowing cry. The symptoms, as a rule, do not develop until about four to six weeks of age.

To make a diagnosis of enlarged thymus by X-ray, it is recommended that Roentgenograms be made on the erect lateral and antero-posterior as well as the horizontal positions. Nearly all the information is to be gained from the lateral views (11). Enlargement antero-posteriorly is obviously much more significant than laterally, although some authorities (12) employ only the horizontal position routinely.

It must be remembered, though, that symptoms in an infant often disappear following irradiation over the thymus when a diagnosis of enlarged thymus cannot be made from X-ray films. When an infant has symptoms that may be referable to the thymus he should be given the benefit of X-ray therapy whether or not enlargement is demonstrable.

Treatment

Treatment varies with the individual who is treating thymic hypertrophy. X-ray irradiation is doubtless much more widely used than radium, though the latter has its exponents. Results are equally satisfactory in the two methods.

Prior to the use of X-ray in the treatment of thymic enlargement, thymectomy was occasionally performed (14). In 1904, Dr. Friedlander first advocated the use of X-ray in the treatment of enlarged thymus and the first case was successfully treated by the new method that year (13). Relief from symptoms is striking and may occur as early as ten to twelve hours after irradiation, though usually more than one treatment is necessary. The change in the gland is a loss of lymphocytes in the cortex just as in age or accidental involution.

Status Lymphaticus

Since 1890, when Paltauf presented his theory of "status lymphaticus", this term has been used in medical literature. It has been defined as a combination of constitutional characteristics including hyperplasia of the lymphoid tissue and of the thymus, hypoplasia of the cardiovascular system, and peculiarities of configuration. To determine more about this condition a thorough investigation was made in England of 680 cases (16). An attempt was made to determine: (1) Standards of weights for ages and proportions to body weight of the normal thymus at all ages, (2) the precise cause of death where the only apparent abnormality at autopsy is an enlarged thymus. The conclusions were:

- 1. An abnormally large thymus in itself cannot be considered to be indicative of "status thymico-lymphaticus" when no obvious cause of death is found at postmortem.
- 2. It is impossible to judge the adequacy of anesthetics or shocks as causes of death be-

cause their effects cannot be measured in the dead body.

- 3. There is no definite evidence of any concomitant general hyperplasia of lymphoid structures in cases with an abnormally large thymus.
- 4. There was no evidence in the series examined of an association between arterial hypoplasia and an abnormally large thymus.
- 5. In the opinion of the committee, the facts elicited afford no evidence that so-called "status thymico-lymphaticus" has any existence as a pathological entity.

The conclusions represent probably the most thorough and searching investigation into the subject yet made and will doubtless play an important role in bringing about the disuse of the term status lymphaticus as a pathological entity. It may be well, however, to examine the theories concerning the cause of death in patients with an enlarged thymus (3):

- 1. Due to pressure on trachea, blood vessels or nerve trunks.
- 2. Constitutional defect manifesting inself through an injurious raising of the vagus tone together with a deficiency of the chromaffin system and weakness of the sympathetic system.
- 3. Due to hypersusceptibility to physical and chemical agents.
 - 4. Anaphylaxis.
- 5. Abnormal thymic secretion of a general lymphotoxemia.
- 6. Spontaneous rupture of an hypoplastic cerebral vessel, often following an apparently trivial injury (17).

Each theory has its advocates but it is only to the first two that attention will be directed. As regards the pressure theory, Jackson is often quoted as stating that an enlarged thymus can compress the trachea sufficiently to obliterate its lumen. He has seen this at tracheoscopic examination but at autopsy the engorgement has disappeared (14). The thymus is pushed upward during expiration, particularly during forced breathing as in crying. It is easy to see how the apex of the wedge-shaped gland could jam into the narrow bony top of the costal cage and exert considerable pressure on the softer, yielding structure. This theory is probably more widely believed than any

other.

The other attractive theory, and one which has recently gained many proponents, is that there is a constitutional defect wherein vagus tone is increased and the sympathetic system weakened (18). Thus the common symptoms, stridor, dyspnea, cyanosis, choking attacks, asthma, pylorospasm, enterospasm, laryngospasm, and irregular breathing could be caused by contraction of the smooth muscle under vagus control. Many observers have noticed the occurrence of pylorospasm associated with thymic hypertrophy.

Vagatonic symptoms may result either from stimulation of the vagus or a reduction in the activity of its antagonist, the sympathetic system. Activity of the suprarenals has a marked effect on the autonomic nervous system. It has been pointed out that spontaneous involution of the cortex of the suprarenals occurs during the first two weeks of life. By suprarenalectomy a condition simulating "status lymphaticus" has been produced in animals. There are three possible causes for the production of symptoms which are referable to the suprarenals: (1) Insufficient epinephrine production may weaken vascular systole, (2) hypoglycemic shock may be produced because of insufficient epinephrine, (3) following the normal involution of the suprarenals after birth, an autonomic unbalance produces a vagatonia which may cause many of the symptoms (18).

In a series of forty patients, irradiation over the thymus afforded relief of symptoms whether or not the thymus was demonstrably enlarged (18). On the other hand, if the cause were purely overactivity of the vagus, irradiation over any large lymphoid structure, such as the spleen, should result in a diminution of symptoms. This has been tried in a few cases but without satisfactory results (19).

Knowledge concerning the activity of the thymus is still not complete.

SUMMARY

- 1. The embryology, histology, physiology, and anatomy of the thymus gland are briefly discussed.
- 2. If symptoms in a case could be caused by the thymus in the light of present knowledge, it is safe and proper to irradiate the thymus,

whether or not that gland is demonstrably enlarged.

- 3. After a careful investigation into six hundred and eighty cases, a committee could find no reason for the existence of status lymphaticus as a pathological entity.
- 4. The compression and vagatonia theories, as to the cause of symptomatology in thymic hypertrophy are discussed.

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usually opposite to the mesentery of the in-

testine, however, it may be intramesenteric.

The frequency of this anomaly has been esti-

mated about 2% of the population with the ratio predomination in males 2 to 1. Meckel's

Diverticulum may be found in any period of

life, but cases reported are usually children or

young adults, due to pathological changes tak-

ing place at this time. As this anomaly affects

2% of our poulation, there is no doubt that

the majority of individuals go through life

without symptoms, it being encountered in-

cidentally at operation or at necropsy. How-

ever, some pathological changes take place in

outstanding finding. Anorexia is frequently

observed. The temperature is rarely elevated

in the early stages but usually manifests itself as the condition progresses. The symptoms as

well as the pathological changes of involvement

Meckel's Diverticulum with Subsequent Intestinal Obstruction

BELTON J. WORKMAN, M. D., WOODRUFF, S. C.

Meckel's Diverticulum is a rudimentary blind pouch on the intestinal tract, due to the persistence of a portion of the Vitelline duct or yolk stalk. This Vitelline duct normally begins to disappear during the early weeks of fetal life. Complete atrophy may fail to occur anywhere along the course of the duct, and manifest itself as Meckel's Diverticulum. Occasionally the duct becomes obliterated, except at its distal part, an umbilical fistula is formed with secretions from still active glandular elements in the mucosa of the duct. However, these cells may undergo hyperplastic changes and form neoplasm of the umbilicus.

This condition was described by Johann Meckel in 1812, who stated that the structure of the inner layer is exactly the same as in the portion of intestine from which the Diverticulum arises. He did not recognize that the inner layer of the Diverticulum may contain gastric mucosa with peptic ulcer formation which is subject to subsequent hemorrhage or perforation. In 1902 Denecke reported the first ulcer in Meckel's Diverticulum and Dectz in 1907 reported the presence of gastric mucosa and stressed the peptogenic character of these ulcerations.

Meckel's Diverticulum is extremely variable in its anatomy, it is usually found within the terminal 4 feet of the ileum, usually represented as out pouching of the small intestines, or may be several inches in length, but the average Diverticulum is about the size of a finger with its end rounded. The shape of a Diverticulum may be bulbous, conical, or spherical due to constriction at its base. Its origin is

about 25% of all cases of Meckel's Diverticulum, this may manifest itself as a mechanical disturbance, acute inflammatory process, development of heterotrophic tissue, or development of a tumor. When symptoms occur from an underlying diverticulum, it is poorly understood because of the difficulty of correct diagnosis, as they are likely to simulate so closely those of other acute abdominal conditions. Pain when present may be colicy and intermittent, is usually to right of the umbilicus and may manifest itself in the right iliac fossa. Nausea, vomiting and constipation may or may not occur. In many instances blood is found in the stools which is usually dark but may be bright red and profuse. The bleeding may extend intermittently over a period of months or years often being traced to early childhood, and may be the only

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of Meckel's Diverticulum resemble those seen in various stages of appendicitis for which it is most generally mistaken. In case of acute inflammatory changes, perforation, abscess formation and peritonitis may occur as a complication.

Meckel's Diverticulum being the causative factor of intestinal obstruction does not differ essentially from intestinal obstruction or intussusception due to other causes. According to estimates by Halstead, Meckel's Diverticulum is responsible for 6% of the cases. Harkins found that 17% of the Diverticula that cause trouble do so by producing intussusception. However, intussusception in children under 2 years of age is rarely caused by Meckel's Diverticulum. Meckel's Diverticulum which is lined with heterotopic tissue produces a similar picture to the symptom complex of gastroduodenal ulcer with its attending complications. Cyclic pain may be present with a periodicity in relation to ingested food and also as hunger pains, the secretion in the gastric mucosa paralleling that in the duodenum.

I have recently attended a young white man, 17 years of age, who gave a history of an abscess of the umbilicus when one year of age, this abscess discharged for 2 years, very purulent and offensive at first, later a thin watery discharge. All his life he had complained of pain in the region of his umbilicus, accompanied by sour stomach and belching sour gas. There was an umbilical hernia until he was 3 years of age. For past 2 months he had complained of severe constipation, more pronounced pain around his umbilicus and loss of appetite. He had a sudden acute pain in region of umbilicus, radiating to right side, was nauseated, and vomiting continuously. An enema was given, returning with good results, which gave no relief. He continued to be restless and vomiting during the night. The following day his condition became more alarming and he was admitted to the hospital.

When the patient was seen at this time he had a temperature 102, pulse 120, respiration 22, leucocytes 18,320, with polymorphonuclear of 81%, the urine was negative. The abdomen was quite tender in area of the umbilicus, pain radiating to right lower quadrant, with marked muscular rigidity. The abdomen was distended,

quite painful and there was constant vomiting. The abdomen was opened with a right lower rectus incision and upon incising the peritoneum a large amount of blood tinged fluid escaped. Upon exploration of the abdomen a Meckel's Diverticulum was found about 3 feet from the Ileo Cecal junction, springing from the antimesenteric border of the ileum which was about one inch in diameter at its base, extending in conical shape eight inches in length and attached to the umbilicus. The portion of the ileum between the diverticulum and cecum had passed over this constricting diverticulum and caused obstruction of this portion of the intestine, which showed marked discoloration. The strangulated intestine was placed between warm pads, which soon regained its normal color. The Meckel's Diverticulum was removed by the usual method and the abdomen closed. The patient had an uneventful convalesence and was discharged from the hospital on the 12th day.

The difficulty of making a diagnosis of Meckel's Diverticulum, due to diversity of pathological lesions is obvious. Meckel's Diverticulum may be pictured in serial roentgenograms of the intestinal tract, but may reveal nothing more than the necessity of further detailed examination. The occurrence of bloody stools may point to the development of heterotopic peptic ulcer, which may closely simulate gastric or duodenal ulcer. Intestinal hemorrhage may be the cause of secondary anemia, and may be the only apparent symptom even in the presence of a malignant condition. Intestinal bleeding in young children should be differentiated from hemophilia, purpura hemorrhagica and hemorrhagic diseases of the new born.

It is the inflammatory changes in Meckel's Diverticulum that are most difficult to diagnose preoperatively, and at operations in the absence of pathological conditions to explain the clinical findings, Meckel's Diverticulum should be looked for. The possibility of the presence of pathological Meckel's Diverticulum must be considered in differential diagnosis in all instances in which pathological changes are not sufficient to explain any vague abdominal symptoms, or in which the cause of intestinal bleeding is not apparent at the time

of operation. I am of the opinion that when operating upon the younger age group for simple appendectomy, that examination for presence of Meckel's Diverticulum should be made, however, if found it need not be removed as a routine. If a diverticulum is present with a narrow base, is long, adherent, possesses inflammatory changes, or if there is a possibility of it producing intestinal obstruction, it should be removed as a prophylactic measure. However, the treatment in any case depends on the group to which it belongs and the condition that is present.

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A Few Brief Remarks on Stones in the Ureter

This article has been secured through the courtesy of Dr. Jack Norris, Atlanta, Ga., Vice-President of the Piedmont Post Graduate Clinical Assembly, Anderson, S. C. This Department of post graduate education is presenting articles dealing with medical and surgical problems of the day.

SPENCER A. KIRKLAND, M. D., ATLANTA, GA.

The physician has had stones in the ureter to contend with over a period of years. Many an appendix operation has been performed when as a matter of fact the patient's symptoms were due to ureteral calculi. These stones may be unilateral or one may appear in both ureters simultaneously.

There has been a difference of opinion among urologists as to whether stones in the ureter are primary or secondary. Some contend that the calculi found in the ureter originate there; other well known urologists adhere to the opinion that the stones are formed in the kidneys and are found secondarily in the ureters. The writer is of the opinion that ureteral calculi can be either secondary or primary.

Since the advent of the X-ray and the modern methods of cystoscopy, one is able to determine the size, shape and position of a ureteral calculus. The method of relief for the patient can be determined readily, whereas years ago the doctor's diagnosis was about fifty per cent guess work and the patient was subjected to a great amount of suffering and discomfort. The doctor was working more or less in the dark.

The greatest danger of a stone in the ureter is the great risk to which it subjects the kidney. The pain of a ureteral stone is not due to the cutting effect of the calculus on the walls of the ureter but to the amount of distension of the kidney pelvis, brought about by the foreign body blocking the ureter when a stone passes from the kidney pelvis into the ureter or when a stone that has formed in the ureter has grown to sufficient size to cause a partial obstruction. If the patient is not suffering from an attack of kidney colic, he is living in dread of such an attack until the stone reaches the bladder.

Some stones are smooth and pass with little discomfort to the patient, while the cutting, cockle burr type leave erosive marks on the walls of the ureter, which later may develop into strictures. These latter types are accompanied with much pain in the loin, penis and testicle, and cause some blood and pus to appear in the urine, either macroscopically or microscopically.

When the stone is halted in the ureter, one may get a dilation above and below, as well as an inflammation and loss of tone of the ureter below the stone. As a usual thing, stones do

not remain for any length of time in the upper ureter. They may, however, remain for years in the lower third of the ureter and invariably cause some renal or bladder infection. In these stones lodged low in the ureter, pain in the testicle is a common symptom. They do not necessarily cause trouble by remaining in this position over a long period, provided one has good drainage by the calculus into the bladder.

When a flat X-ray is made and it is thought that one has a stone in the ureter, it is important to pass an X-ray catheter to verify this diagnosis. If a stone is really in the ureter, the shadow will be in apposition to the catheter.

Intravenous urography is a great help to one who does not do cystoscopy. If the stone completely blocks the ureter, there will be a functionless kidney on this side and, of course, no dye will appear in the pelvis. The writer is a great believer in retrograde pyelography. In my opinion, damage to a number of kidneys has been avoided by passing catheters up beyond a ureteral stone into the pelvis of the kidney and in this way establishing good drainage from the kidney to the bladder.

A ureteral calculi, if left untreated, can cause any condition from a mild pyelitis to hydronephrosis or pyonephrosis with resulting loss of function in the kidney on the affected side.

One is not able to make a chart setting forth a method for treating any and all ureteral calculi, as the position, and size, as well as type of stone, have to be taken into consideration when mapping out the plan of relief. The urologist has a number of different makes of ureteral stone dislodgers, but no one particular make can be utilized successfully in all cases. The writer has obtained good results by passing one, two, or three catheters up beyond the stone and allowing these catheters to remain in place for twenty-four hours, then instilling two or three c.c. of sterile olive oil up beyond the stone and remove the catheters. Oft times the stones will come out when the catheters are removed.

CONCLUSIONS

- 1. One should study the stone in the ureter relative to the type, location and shape.
- 2. Utilize both X-ray and cystoscope, making both retrograde and intravenous pyelograms in the cases that are difficult to work out.
- 3. Remember there is no end to the damage done to a kidney caused by blockage of an ureter. It behooves one to establish good drainage from the kidney to the bladder.
- 4. Use a little common sense in selecting a method of removing ureteral stones.
- 5. Bear in mind that the treatment is not complete as early as the stone is removed.
- 6. One should follow up his treatment by dilatation of the ureters at intervals in order to eliminate any strictures which may have developed in the ureter on the affected side.

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JUNE, 1939

DR. L. M. STOKES HONORED

At the recent meeting of the First District Medical Society held at Walterboro, Dr. L. M. Stokes. Past President of the South Carolina Medical Association, was presented with a beautiful Silver Service by the Alumni Association of the Medical College of the State of South Carolina and other friends. presentation was made by Dr. J. R. Des Portes, immediate past President of the State Medical Association and President of the Alumni Association of the College. Dr. Des Portes reviewed in brief the achievements of Dr. Stokes in the interest of medical education in South Carolina and also his interest in organized medicine. Dr. Robert Wilson, Sr., Dean of the Medical College, acknowledged the leadership of Dr. Stokes while he was President of the State Medical Association along with many other friends of the College and stated that as a result of these joint activities a liberal appropriation was secured in sufficient amount to warrant the building of a new institution and that the work was already in progress. Other speakers participating in the happy event were Dr. Douglas Jennings, President of the S. C. Medical Association, Dr. C. R. May, past President of the State Medical Association and the Secretary-Editor of the Association.

When it was rumored that one of the fore-most citizens of Walterboro was to be thus honored the large auditorium of the school building was soon filled with admiring friends supplementing the members of the First District Society of about one hundred doctors. The prolonged applause at the conclusion of the presentation gave evidence of the great popularity of this distinguished leader of medical thought and activity in our State. Dr. Stokes in his usual modest way spoke feelingly of this tribute and thanked all those who had any part in providing the surprise.

DEATH OF DR. ERNEST COOPER

The passing of Dr. Cooper at the very zenith of his career as Superintendent of the South Carolina Sanatorium is indeed a great loss to the State and to the particular field of medicine in which he had achieved an enviable reputation extending far beyond the borders of this state. Dr. Cooper was in a true sense of the word a pioneer in the fight against tuberculosis but he lived long enough to see the institution over which he had presided as Superintendent since May 1915 when it was opened with a small ward for sixteen white men become a great institution of more than five hundred bed capacity, one of the finest in the Southern

States. Dr. Cooper's official connection with this institution extended over a period of twenty-four years and during that time he came in close contact with many thousands of people in all walks of life and without exception he made an outstanding impression upon them as being wholeheartedly interested in the welfare of those afflicted with tuberculosis.

He lived long enough to receive the gratitude of many hundreds of patients whose health had been restored under his kindly administration. He lived long enough to receive the "well done thou good and faithful servant" from the State and from many official bodies in which he held membership. Truly his was a well spent life in the service of his fellow man.

COMMENTS ON THE A. M. A. AT ST. LOUIS

The meetings of the American Medical Association have reached gigantic proportions and only a few cities have the facilities to accommodate the ten thousand or more people who annually make up the aggregate number. This year at St. Louis the registration was nearly eight thousand and of course there are hundreds of others who are present in one capacity or another in addition to the doctors. The entire profession looked to the House of Delegates for its legislative leadership in these troublous times and it appears reasonable to assume that few will disagree with the many actions of the House on a multitude of problems brought before it.

It was significant that the House of Delegates approved of a plan whereby the Council on Medical Education and Hospitals will be in position to enlarge its scope of activities particularly in the interest of pre-medical, under graduate and graduate medical education. There will be still closer cooperation with the many certifying boards of the specialities. The membership on the Council will be increased from seven to nine. The whole country was interested in what attitude the House of Delegates would take about the Wagner Health Bill now in the Congress.

An analysis of this Bill in detail will be found in the Minutes of the A. M. A. House of Delegates but for the information of the members of the South Carolina Medical Association a summary is given below.

SUMMARY

1. The Wagner Health Bill does not recognize either the spirit or the text of the resolutions adopted by the House of Delegates of the American Medical Association in September, 1938.

2. The House of Delegates cannot approve the methods by which the objectives of the National

Health Program are to be obtained.

- 3. The Wagner Health Bill does not safeguard in any way the continued existence of the private practitioners who have always brought to the people the benefits of scientific research and treatment.
- 4. The Wagner Health Bill does not provide for the use of the thousands of vacant beds now available in hundreds of church and community general hospitals.
- 5. This Bill proposes to make federal aid for medical care the rule rather than the exception.
- 6. The Wagner Health Bill does not recognize the need for suitable food, sanitary housing and the improvement of other environmental conditions necessary to the continuous prevention of disease.

7. The Wagner Health Bill insidiously promotes the development of a complete system of tax sup-

ported governmental medical care.

8. While the Wagner Health Bill provides compensation for loss of wages during illness, it also proposes to provide complete medical service in addition to such compensation.

9. The Wagner Health Bill provides for supreme federal control: federal agents are given authority to disapprove plans proposed by the individual states.

- 10. The Wagner Health Bill prescribes no method for determining the nature and extent of the needs for preventive and other medical services for which it proposes allotments of funds.
- 11. The Wagner Health Bill is inconsistent with the fundamental principles of medical care established by scientific medical experience and is therefore contrary to the best interests of the American people.

12. The fortunate health conditions which prevail in the United States cannot be disassociated from the prevailing standards and methods of medical

practice.

- 13. No other profession and no other group have done more for the improvement of public health, the prevention of disease and the care of the sick than have the medical profession and the American Medical Association.
- 14. The American Medical Association would fail in its public trust if it neglected to express itself unmistakably and emphatically regarding any threat to the national health and well being. It must, therefore, speaking with professional competence, oppose the Wagner Health Bill.
- 15. The House of Delegates would urge the development of a mechanism for meeting the needs for expansion of preventive medical services, extension of medical care for the indigent and the medically indigent, with local determination of needs

and local control of administration, within the philosophy of the American form of government and without damage to the quality of medical service.

16. The fundamental question is how and when a state should be given financial aid by the Federal government out of the resources of the states as a whole, pooled in the Federal Treasury.

17. The bizarre thinking which evolved the system of Federal subsidies—sometimes called "grants-in-aid"—is used to induce states to carry on activities suggested frequently in the first instance by officers and employees of the Federal Government.

18. The use of Federal subsidies to accomplish such Federally determined activities has invariably involved Federal control.

19. Any state in actual need for the prevention of disease, the promotion of health and the care of the sick should be able to obtain such aid in a medical emergency without stimulating every other state to seek and to accept similar aid, and thus to have imposed on it the burden of Federal control.

20. The mechanism by which this end is to be accomplished, whether through a Federal agency to which any state in need of Federal financial assistance can apply, or through a new agency created for this purpose or through responsible officers of existing Federal agencies. must be developed by the Executive and the Congress, who are charged with these duties.

21. Such a method would afford to every state an agency to which it might apply for Federal assistance without involving every other state in the Union or the entire government in the transaction.

22. Such a method would not disturb permanently the American concept of democratic government.

The scientific aspect of the A. M. A. meeting evoked the admiration of everyone who attended the meeting particularly the scientific exhibits. This feature is certainly one of the most remarkable concentrations of medical knowledge ever assembled in the history of medicine.

South Carolina doctors did not attend in as large numbers as was hoped. It was noted that the following physicians from this State were registered; Drs. J. H. Cannon, Charleston; R. L. Crawford, Lancaster; Josiah E. Smith, Charleston; William Weston, Sr., Columbia; Edgar A. Hines, Seneca; Charles P. Corn, Greenville; Thomas R. Gaines, Anderson; Manly E. Hutchinson, Columbia; Austin T. Moore, Columbia; D. O. Winter, Sumter; J. D. Guess, Greenville; T. Willis Martin, Belton; C. W. Morrison, Lancaster, and James T. Quattlebaum, Columbia.

The election of a general practitioner to be President Elect of the Association, Dr. Nathan Van Etten of New York, formerly Speaker of the House of Delegates is an honor most worthily bestowed.

OBSTETRICS AND GYNECOLOGY

J. D. GUESS, M.D., GREENVILLE, S. C.

IS MODERN ENDOCRINE THERAPY RATIONAL?

A bulletin from a prominent manufacturer of endocrine substances begins with the sentence, "The rationality of male sex harmone therapy with testosterone propionate is attested by the number of favorable reports by eminent workers." This statement suggested the question which heads this article. It further raises the question as to the reliability of reports in the literature as a guide to the rationality of the use of these newer endocrine products in therapy.

The word rational is defined as that based upon reasoning and not upon simple experience, and, hence, it conforms to reason, so that rational therapeutics is treatment based upon a knowledge of the disease and of the action of the remedy employed. In contrast empirical therapeutics is defined as treatment based upon experience or observation, that is by remedies that experience has proven to be useful. A standard dictionary goes further and says that it is treatment that results from generalizing hastily from limited facts, and hence tends toward charlatanism.

Research during later years has amassed a deal of information about endocrinal harmones and their physiologic action. Unfortunately, however, much of this information has been based upon experimental work with lower animals. By a process of reasoning, such as is required if it be rational, an effort has been made to carry these observations over into the

field of human medicine and apply them therapeutically.

However, there is an important obstacle to the rationality of this, namely, harmonal substances derived from other animals or even those synthetically prepared do not necessarily react in man as they do in experimental animals, nor do they react in the same manner in all species used in experiments. Furthermore, different workers of seemingly equal ability report different observations and conclusions.

In view of these facts, briefly recalled, it may be said that rational endocrinal therapy forms a relatively narrow zone in the field of such therapy. There is a wider zone of empirical therapy and separating these two zones lies a very wide zone where differentiation can not be clearly made. In this middle zone there is considerable activity. Measures seemingly quite rational become in the light of other knowledge quite irrational. Newer published observations throw doubt upon observations previously made, and application therapeutically of the knowledge changes from that quite rational to one decidely empirical or experimental.

Here arises one of the difficulties. Once a product has been manufactured economically, once it has been widely published, it is impractical to withdraw it from the market, or to publish the fact that doubt has been cast upon its usefulness. Ask any druggist how much of the old dried extracts of glandular

tissue, now known to be therapeutically worthless, he dispenses upon doctors' prescriptions. His reply will be interesting. Not only does he fill many such prescriptions, but he has no trouble in keeping his stock up. The scientific research division of the manufacturer is quite distinct from that of the sales department.

Then if one is to be rational in his treatment of disease and at the same time employ endocrinal preparations, several things are necessary. First of all he must not depend upon the house organs or the literature distributed by the manufacturer for his knowledge. Neither must he depend upon the writings of a single worker or clinician. The research worker writes of experimental animals, while the clinician frequently draws erroneous conclusions from uncontrolled clinical experimentation or what is even worse, he may present as an original contribution a poorly digested resume' of what he has himself read, and often times this resume' suggests that his principle source of information emanated from the manufacturer.

In a later article the editor will attempt to present his opinion, specifically, as to what endocrine preparations are available today for the rational treatment of some of the functional disturbances of women. He will try at that time to show why the use of other products must be classified as empirical and experimental.

PEDIATRICS

R. M. POLLITZER, M.D., GREENVILLE, S. C.

STATISTICS ON THE NEWBORN FROM THE GREENVILLE GENERAL HOSPITAL

To a doctor, whether he be a general practitioner, obstetrician or pediatrician, facts and figures about the Newborn Infant should be of interest. While statistics concerning birth weights, loss of weight during the first ten days of life, etc., may readily be found in most pediatric text books, especially in Pierre Budin's "The Nursling," in "Abts Pediatrics," in Holt's "Diseases of Children," and in Griffith and Mitchell's "Diseases of Infants and Children"; yet it is worth while, from time to

time, to collect and assemble new figures from different localities. The study here is not large nor over a long period of time but is considered ample enough to be of some value.

- 1. Number of Newborns:—One hundred.
- 2. Period of Newborn observation: January 1st through March 1st, 1939.
 - 3. Number of males:—54. Number of females:—46.
- 4. Birth weights:—During January and February the greatest birth weight was 9 lbs. 4 oz., in a male and 9 lbs. 2 oz., in a female. The smallest birth weight, for full time babies, was 5 lbs., in a male and 5 lbs. 1 oz., in a

female. The average weight lost, during the first ten days of life in 63 Newborns, was 8 oz. (7.9 oz.). The greatest weight loss of 100 infants was 20 oz. and the smallest was 0 oz.

5. The temperatures: — The temperatures were taken on all babies routinely (except for illness) each morning at 8 A. M. rectally. During January two infants had an elevation in temperature; one went to 102 F. and declined the next day. Another reached 102.8 F. Both elevations were in the third day. Both

infants received Hartmann's solution intramuscularly. During February, one infant on the third day had a temperature of 103 F., which came back to normal the following day.

6. Number of Deaths:—5 of these, all premature except one Acrocephalic Encephalocele full time baby.

This statistical report was made possible through the co-operation of Miss Lucy Bowlings, R. N., and Miss Mary Alice King, R. N.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. O. B. Chamberlain January 6, 1939 ABSTRACT NO. 380 (47753)

Student Livington, presenting.

Admitted May 14, 1938; died May 23, 1938.

History: The patient, a negro man of 52 years of age, was admitted in extremis with Cheyne-Stokes type respiration. He was unable to give a reliable history; he answered "Yes, sir" to all questions. His wife stated that the patient had had "heart trouble" since the preceding October (1937). Three weeks before admission he had a "stroke" and since that time had been paralized on the right side. A cough, occasionally productive of blood clots, dated from about the same time.

Physical: T. 99.4°. P. 98. R. 24.

The patient was an emaciated negro man of the apparent stated age, in a critical condition and showing Cheyne-Stokes type respiration. The right eye lid drooped. The left pupil reacted to light; the right eye was atrophic. The percussion note was impaired over the left base and fine moist rales were heard. The heart was enlarged (X-ray), rate 98, rhythm regular and a systolic murmur was heard over the apex. B. P. 138/70. The pulse was of poor volume and quality. The liver was palpable 2 f. b. below the right costal margin. The right hand and arm were edematous as were also the feet and ankles. Deep reflexes were absent on the right. Eyegrounds were negative except for arteriosclerosis.

Laboratory: Urinalysis 5-15-38. The one voided sample examined was clear, amber in color, acid in reaction and the sp. gr. 1.025; otherwise negative.

. cocion dina di	Pr G,	
Blood:	5-15-38	5-20-38
Hb.	80%	74%
RBC		
WBC	11,900	12,600
Polys	86%	74%
Lymphs	14%	20 %
L. Monos.		6%

Spinal Fluid 5-21-38
Colloidal Gold Curve—neg.
Kolmer—negative.
Serology
Kolmer—A. C.
Kline—4 plus.
Blood Chemistry
Urea N 37 mgs.%
Cell Count—0
Globulin—trace
Sugar—2 plus.

Course: General condition did not improve; became restless then stuporous. Expectorated bright red blood on several occasions. Temperature fluctuated between 98.6° and 102.6° with a terminal rise to 103.6° during the last two days of life. Expired on the ninth day after admission.

Dr. Robert Wilson, Jr.: (presiding) Mr. Thompson, will you open the discussion?

Student Thompson: In a negro male of the patient's age and a story of previous heart trouble and recent right-sided paralysis, I believe that his illness was on a basis of generalized arteriosclerosis. This might cause cerebral hemorrhage or thrombosis and would not necessarily be associated with hypertension. His confused state and inability to answer stated questions would not seem to be due to a dementia but more likely to changes following a cerebral accident at this age.

Dr. Wilson: In speaking of generalized arteriosclerosis, do you think that both the heart failure and the cerebral pathology was caused by the same process?

Student Thompson: I believe that peripheral vascular disease would be the cause of his cerebral symptoms, though the cardiac pathology might be on a different basis.

Dr. Wilson: In a patient with a normal pressure, what signs would you look for which would indicate that there had been a previous hypertension?

Student Thompson: Peripheral vessel changes in the retina. A scarring would indicate a previous hypertension. Also the urinary findings, such as a fixed low specific gravity and presence of albumin and casts would be suggestive of hypertensive cardiovascular-renal disease.

Dr. Wilson: Is the blood pressure apt to fall in the terminal stages of malignant hypertension?

Student Thompson: I can't answer that.

Dr. Wilson: No., there is always evidence of renal failure associated with persistent hypertension. Mr. Kinder, do you agree with what has been said?

Student Kinder: It is possible of course that the lesion was on an arteriosclerotic basis but in view of the cerebral accident I would think it more probable that he had benign arteriolarnephrosclerosis with previous hypertension. Cough with bloody sputum can occur from a lung that is markedly congested from heart failure. He might also have a terminal pneumonia, with few clinical symptoms, that would explain his hemoptysis. I do not think that the fact that the patient answered yes to all questions is sufficient basis for the diagnosis of dementia. He exhibited Cheyne-Stokes breathing and other evidence of being extremely ill which might account for a temporary clouding of his consciousness.

Dr. Wilson: Do you think his urea nitrogen increase was due to congestion?

Student Kinder: That could account for it, and readings up to 50 mgs.% are often seen in circulatory collapse.

Dr. Wilson: How do you account for right-sided edema of the body?

Student Kinder: In the presence of the rightsided hemiplegia vasomotor changes might give rise to edema of the effected portion.

Dr. Wilson: Mr. Ravenel, what do you think? Student Ravenel: I should think on the basis of arteriosclerosis and a right-sided paralysis, that the patient was suffering from a cerebral hemorrhage. Thrombosis appears to be much less common.

Dr. Wilson: How do you account for his hemoptysis?

Student Ravenel: Probably on the basis of his congestion.

Dr. Wilson: Mr. Cannon, what relationship is

there between motor aphysia and right hemiplegia?

Student Cannon: I don't see any particular pathological basis connecting the two conditions in this case.

Dr. Wilson: Mr. Agnew, where is Brocas area? Student Agnew: Brocas area is in the left inferior frontal convolution in right-handed people, on the opposite side in left-handed people. I do not think though that this man's lesion had to be located in Brocas area to produce symptoms of confusion such as he had. Any severe lesion in the cortex might produce the same state of disorientation.

Dr. Wilson: Any further comments: (none were offered).

Dr. Lynch: Bright red blood in the sputum was in this particular case caused by an infarct in an already markedly congested lung. His heart showed considerable enlargement without hypertrophy of the ventricular walls, but was dilated, secondary to marked fibrosis which had replaced muscle fibers. In this particular case syphilis was the cause of the scarring, and evidence of some activity was still present about the small arteries in the myocardium. Scarring extended up under the endocardium, and this accounts for the thrombus formation, giving rise to emboli which lodged in the brain. There are areas of anemic infarction with necrosis in the anterior part of the left partietal lobe and in the lower portion of the left cerebellar hemisphere. A large hemorrhagic infarction is present in the right lower lobe of the lung. These anatomic lesions could fully account for all the man's symptoms.

Dr. Wilson, Sr.: Isn't it more probable that infarcts following embolism would be on the right side?

Dr. Lassek: Because of the larger caliber of the innominate vessels arising from the right side of the arch, large emboli are more apt to go to the right side.

Dr. Lynch: No one has mentioned ptosis and atrophy of the eye. Will anybody venture an opinion of the relation of these changes to the paralysis?

Dr. Lassek: I think these changes are due to some other cause of a long duration. A lesion in the area found at autopsy would be unlikely to account for any paralysis of the extra-occular muscles giving rise to ptosis.

REPORTS

REPORT OF THE SECRETARY-TREASURER-EDITOR TO THE HOUSE OF DELEGATES SOUTH CAROLINA MEDICAL ASSOCIATION, SPARTANBURG, MAY 11, 12, 13, 1939

By E. A. Hines, M. D., Seneca, South Carolina

The fiscal year closing December 31, 1938, in many respects was the best year in the Association's history. The membership increased to a total of 826 paid up members. The Association membership

extends now to every county in the State, that is forty six counties. Several counties are not well organized as individual county societies but belong to either a Tri-County or some other county combination giving them a very good working contact with organized medicine. It is gratifying to report that after many years of inactivity Lee County was reorganized on a strong basis in 1938. It is also a source of pleasure to announce that Allendale has just reorganized its society with a most enthusiastic

outlook for future development. Certain sections of the state have taken on a remarkable growth in population and in financial importance, notably, the Georgetown area and there would seem to be an opportunity to organize a county society there again.

It has been considered that a goal of one thousand members is probably the limit for a total membership of the South Carolina Medical Association. President Des Portes on assuming the leadership of the State Medical Association set this high mark for accomplishment during his term of office. Your Secretary is glad to inform the House this morning that the latest figures just published in the Journal of the American Medical Association discloses that the enrollment of members of the South Carolina Medical Association has reached the grand total of 943, only fifty seven short of the enrollment sought by President Des Portes. It would appear to be possible to reach the goal of one thousand in 1940. The 1938 directory of the A. M. A. gives South Carolina 1354 doctors. These figures include of course retired physicians, colored doctors, and many others who have the M. D. degree but do not practice medicine. It is worthy of note also that there are several hundred fewer doctors in South Carolina than there were two or three decades ago which means that the possibility of membership for the State Medical Association is in general more circumscribed than it has been in the past. The recent report of the American Medical Association shows a steady increase in fellowship in S. C., in the A. M. A. and is now 409. Your Secretary would urge all of the members of the Association who receive the Journal of the A. M. A. to apply for fellowship since the procedure is a very simple one. At the present time 588 members of the South Carolina Medical Association receive the Journal of the American Medical Association.

During 1938 and up to the convening of this body there has been a remarkable interest in organized medicine manifested in South Carolina and particularly in the scientific programs of the County and District medical societies. It is not too much to say that the record in this regard has never been equalled in the history of the State Association. Much of this enthusiasm and progress has been due to the initiative and sustained enthusiasm of several of our larger societies, such as Columbia, Greenville, and others. These Societies have brought to the State many of the most famous physicians in America to appear on their programs and the inspiration has extended to all parts of the State. These plans have been entered into whole heartedly by the officers of the State Medical Society and as a result the personal visitations of these officers and participation in these programs added tremendously to the results above referred to.

Post Graduate Medical Education

Your Secretary has made an earnest effort to promote graduate teaching in South Carolina. The Piedmont Post Graduate Clinical Assembly at Anderson now listed by The A. M. A. as an important extension type of graduate education, continues to function on a high plane with an attendance annually of more than one hundred physicians from this and surrounding states. The Medical College of the State of South Carolina has contributed very largely to the success of this new institution by lending its teachers at every session.

Refresher Courses in Obstetrics

The post graduate coures in obstetrics conducted under the auspices of the Division of the Maternal Welfare of the State Board of Health and of the Medical College of the State of South Carolina offered an extensive program of lectures in this branch of medicine during 1938 and approximately half of the members of the South Carolina Medical Association attended these courses.

The Study of Medical Care by the A. M. A.

When the Board of Trustees of the American Medical Association announced in the latter part of 1937 that a survey of medical care of the United States would be undertaken through the constituent state and county medical societies the officers of the South Carolina Medical Association undertook at once to cooperate in the assembling of this data. A rather extensive organization was set up to carry out the plan. The State Board of Health, through its County Health Units, gave the Association the use of its personnel to assist County Medical Societies in the work. The State Planning Board of South Carolina also offered its facilities in the prosecution of these efforts. The officers of county medical societies it is believed did the best they could do complete an unusually comprehensive plan extending over a period of many months. Up to the time of rendering this report some eight or ten county societies have participated in the survey which is not yet complete. These results have been somewhat disappointing but on the whole compare rather favorably with a cross section of these surveys made by other county societies throughout the United States. The reports for South Carolina have not yet been tabulated but a superficial examination would seem to indicate that there is no great need for extensive changes in the present methods of the practice of medicine in this state. It is probable that the participation of the county societies of the United States in the survey will reach twenty-five per cent but even so it will be the most extensive survey ever made in this country.

The Journal

During the year the format of the Journal was re-designed and the seal of the Association returns to the front page after many years of absence. Many other changes were made in the set-up of the type of the Journal, intended to be conducive to not only a more satisfying appearance but making the Journal more attractive from the readers standpoint. With an increase in advertising receipts and an increase in the membership dues the Journal has been enlarged and several new departments introduced. The main

idea is to make the Journal more practical for the busy doctor as a reference authority. Almost without exception every meritorious paper submitted by the members of the Association in the immediate past has been published. Additional papers from many parts of the country now come to the Journal for publication and an effort has been made to accept the best of these from time to time. The Journal publishes an average of one thousand copies each month.

Your Secretary-Editor is profoundly appreciative of the unselfish services of his Assistant Editor and the other members of the Associate Staff. Every one of these men responded promptly to any call made upon them and with no financial reward ever forthcoming for this service.

National Defense

Your Secretary has received a communication from the War Department calling the attention of the South Carolina Medical Association to the importance of National Defense. The letter states that this matter should be the concern of every citizen. That the medical profession is deeply involved and plays an essential part. It also goes on to say that it is the proud record of the profession that it has never failed to render service in national emergencies and within the limits of its authority and facilities has provided aid and succor to the wounded wherever they were.

The letter acknowledges the great services performed by the medical department during the World War and that the possibility of future wars must ever be kept in mind and the part the medical profession will continue to play in such emergencies depends largely upon the interest of the great civilian profession.

Colonel N. L. McDiarmid, Fourth Corps Area Surgeon, Atlanta, Georgia, requests the South Carolina Medical Association to authorize medical defense programs at suitable times throughout the year as a contribution of organized medicine to the national defense.

The Program This Year

As you have observed the scientific committee decided to continue the innovation introduced at Myrtle Beach last year of allotting a certain number of hours to round table discussion during the scientific sessions. This is in line with the custom of many other societies and it is noted that the American Medical Association will follow this plan at its meeting in St. Louis next month in some of its sectional meetings for the first time.

Special Meeting of the House of Delegates

A special session of the House of Delegates was held in Columbia at the call of the President on Thursday, March 9, pursuant to a resolution adopted by this House at the Myrtle Beach meeting, 1938, to the effect that the entire House of Delegates appear before the proper finance committees of the legislature in support of an adequate appropriation for the Medical College of the State of South Caro-

lina. President J. R. Des Portes presided over this special meeting. A definite plan of action was formulated and speakers appeared before the Finance Committee of the Senate at the designated hour. About seventy-five delegates and interested visiting physicians were present.

Your Secretary recognizes and is profoundly impressed with the spirit of cooperation on the part of all of the officers and members of the Association during the past year. He has endeavored personally to visit many sections of the state, often in company with the President, the President Elect and other members of the official staff of the Association. This means that the state has been well covered by one or more officers of the Association. For all of these manifestations of progress your Secretary is deeply appreciative.

Finally, your Secretary has but one recommendation to suggest. In December 1939 the Medical Society of South Carolina (Charleston County) will celebrate the 150th anniversary of its organization. This Society is one of the oldest medical societies in the United States and is the mother society of the South Carolina Medical Association having issued the call which resulted in the organization of the State Society, February 14, 1848. Many of the major advances of the State Medical Association have been initiated or fostered by the Medical Society of South Carolina including the publication of the State Medical Journal. It is fitting therefore that this House of Delegates authorize the appointment of a commission to present a suitable testimonial of the high esteem in which the Mother Society is held by the South Carolina Medical Association on the occasion referred to.

> Seneca, South Carolina Jan. 21, 1939

Dr. E. A. Hines Sec.-Editor, S. C. Med. Ass'n Seneca, South Carolina Dear Dr. Hines:

At your request I have audited the books of the South Carolina Medical Association, and the Journal of the South Carolina Medical Association. My report is attached, together with certificate from The South Carolina National Bank, the Receiver of the Seneca Bank, and the Post Office, verifying balances shown in the report.

Complete and accurate records have been kept of all receipts and disbursements and there has been a consistent gain in membership and in advertising receipts.

Very truly,
Frances R. Richardson,
Auditor.

THE SOUTH CAROLINA NATIONAL BANK SENECA; S. C.

January 21, 1939

Dr. E. A. Hines, Editor,

Journal of the South Carolina Medical Association, Seneca, S. C.

Dear Sir:

This is to certify that the balance on deposit in checking account in the name of the Journal, South Carolina Medical Association, in this bank, as of December 31, 1939, was \$1,502.02.

Very truly yours, C. V. Stribling,

Manager

Reconciliation:

Balance shown in report \$1,484.02 Outstanding check 18.00

Balance shown by bank,

\$1,502.02

THE SOUTH CAROLINA NATIONAL BANK SENECA, S. C.

January 21, 1939

Dr. E. A. Hines, Treasurer,

South Carolina Medical Association,

Seneca, S. C. Dear Sir:

This is to certify that the balance on deposit in checking account in the name of the South Carolina Medical Association, in this bank, as of December 31, 1938, was \$618.59.

Very truly yours, C. V. Stribling,

Manager

C. V. STRIBLING, RECEIVER THE SENECA BANK SENECA, SOUTH CAROLINA

January 21, 1939

Dr. E. A. Hines, Treasurer, South Carolina Medical Association and Editor, Journal of the South Carolina Medical Association, Seneca, S. C.

Dear Sir:

With reference to your claims against The Seneca Bank, Seneca, S. C., in liquidation, the undersigned, as Receiver, does hereby certify that there has been no change in the status of the claims since letter to you dated May 13, 1938, and there is still outstanding a balance due on claims as follows:

- 1. Balance due on checking account in name of Dr. E. A. Hines, Treasurer, of the South Carolina Medical Association—\$239.41.
- Balance due on checking account in name of Journal, South Carolina Medical Association, Dr. E. A. Hines, Editor—\$417.78.

 Balance due on Certificate of Deposit in the name of Dr. E. A. Hines, Editor, Journal South Carolina Medical Association—\$401.31.

> Very truly yours, C. V. Stribling ,

Receiver

UNITED STATES POST OFFICE

Seneca, South Carolina January 23, 1939

Dr. Edgar A. Hines South Carolina Medical Association Seneca, South Carolina My dear Sir:

The balance as shown by the Postal Savings deposit in this office, as of today, is \$1,000.00.

Respectfully yours,

Ray Phillips, Postmaster

STATEMENT OF RECEIPTS AND DISBURSE-MENTS SOUTH CAROLINA MEDICAL ASSOCIATION

For Year Ending Dec. 31, 1938 RECEIPTS

Balance in Banks Jan. 1, 1938	
Defunct Seneca Bank\$ 239.	41
S. C. National Bank 689.	98
Postal Savings 1,000	.00

	\$1,929.39
Membership Dues	2,127.00
Exhibits at Convention	229.56
_	
	\$4,285.95
DISBURSEMENTS	, ,
Printing	\$ 313.82
Salary Secretary-Editor	341.70
Salary Stenographer	599.00
Office Expense	27.56
Stamps	50.00
Travel Expenses Two Delegates American	
Medical Association	467.40
Travel Expense Secretary-	
Editor	100.00
Expenses Official Stenographer	
Convention	109.37
Convention Expense	150.21
Contribution for silver service presented	
Dr. E. A. Hines, Secretary South	
Carolina Medical Association, order	
of House of Delegates	180.00
Annual Audit	25.00
Sundries	63.89
Balance in Banks Dec. 31, 1938	
Defunct Seneca Bank 239.41	

S. C. National Bank _____ 618.59

Postal Savings _____ 1,000.00

1,858.00

\$4,285.95

STATEMENT OF RECEIPTS AND DISI		Travel Expenses Two Delegates America	an
MENTS JOURNAL SOUTH CAROL	INA	Medical Association	467.40
MEDICAL ASSOCIATION		Travel Expenses Secretary-	100.00
For Year Ending Dec. 31, 1938 RECEIPTS		Editor	100.00
Balance in Banks Jan. 1, 1938		Expenses Official Stenographer Convention	109.37
Defunct Seneca Bank\$ 819.09		Convention Expense	150.21
S. C. National Bank 1,352.45		Contribution for silver service presente	
		Dr. E. A. Hines, Secretary S. C. Medica	
	\$2,171.54	Association by order of House of Dele	
Subscriptions	2,126.00	gates	180.00
Advertising	2,577.05	Annual Audit	25.00
_		Sundries	211.89
	\$6,874.59	Balance in Banks Dec. 31, 1938	
DISBURSEMENTS		Defunct Seneca Bank 1,058.5	
	\$2,115.73	S. C. National Bank 2,102.6	
Salary Secretary-Editor		Postal Savings 1,000.0	U
Balance 1937 512.55 1938 1,537.65			- 4 161 11
1938 1,337.03			4,161.11
	\$2,050.20		\$11,160.54
Office Expense	257.55	Assets as of Dec. 31, 1938	φ11,100.51
Sundries	148.00	Cash in Banks and	
Balance in Banks Dec. 31, 1938		Postal Savings	4,161.11
Defunct Seneca Bank 819.09		Furniture and Fixtures	1,085.33
S. C. National Bank 1,484.02			
			\$5,246.44
		Liabilities as of Dec. 31, 1938	
-		Due Secretary-Editor on Salary,	•.
	\$6,874.59	1938	170.85
		Social Security	1.00
COMBINED STATEMENT OF RECEIPT			ф. 171 ОГ
DISBURSEMENTS SOUTH CAROLINA			\$ 171.85
CAL ASSOCIATION AND JOURNAL	, OF	LIST OF MEMBERS BY COUN	TIES
SOUTH CAROLINA MEDICAL		1938	111,0
ASSOCIATION For Year Ending Dec. 31, 1938		Paid	Hon.
RECEIPTS		Abbeville5	3
Balance in Banks Jan. 1, 1938		Aiken14	
Defunct Seneca Bank\$1,058.50		Anderson34	5
S. C. National Bank 2,042.43		Bamberg (Edisto) 3	1
Postal Savings 1,000.00		Beaufort-Jasper1	
		Berkeley 4	
	\$4,100.93	Calhoun (Edisto)2	,
Membership Dues	\$4,100.93 2,127.00	Calhoun (Edisto) 2 Cherokee 9	4 .
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Laurens 17 Lee 8 Lexington 11 Lexington (Ridge) 2 Marion 7 Marlboro 8 Newberry 15	6 1 1	Spartanburg	5 5 5 7 109
Oconee 9 Orangeburg (Edisto) 20	4	Honorary Fellows109	
Pickens11 Saluda4	3	Membership, Total826	

TUBERCULOSIS ABSTRACTS

A Review for Physicians

ISSUED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

To what extent tuberculosis may be regarded as an industrial hazard is engaging the attention of industrial leaders, legislators and physicians. Not only occupation but also several other factors are responsible for tuberculosis among industrial workers. Ornstein and Ulmar analyze these factors. Excerpts from their paper on the subject follow:

TUBERCULOSIS IN INDUSTRY

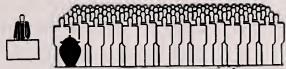
The death rate among the unskilled workers is more than twice that of the skilled workers. Is this due to the industry or to lesser earning capacity? It is more probably due to the latter.

Is tuberculosis an occupational disease? An occupational disease is one that arises out of the occupation per se. There must be a definite relationship between the etiology of the disease and the occupation. The frequency of the occurrence of the disease in the occupation must be greater than the incidence of the disease in a similar group not so employed. A high frequency of tuberculosis in a particular industrial group may be due to the fact that the labor is recruited from a section of the city where tuberculosis is more prevalent than in other sections. Unskilled labor comes chiefly from those parts of the city where the tuberculosis death rate is high.

In a few definite groups only may tuberculosis be considered as an occupational disease. These groups include:

Workers caring for the tuberculous sick—nurses, orderlies, attendants, etc. The frequency of the occurrence of tuberculosis infection and disease among medical students and nurses has been noted by numerous workers. There can be no question but that the opportunity for exogenous infection of the lungs by the tubercle bacillus presents itself in the care of the tuberculous sick. At Sea View Hospital, New York City, X-ray evidence of pulmonary tuberculosis was found in 10 of the 1,000 nurses during the period from 1930 to 1935, and 21 others developed lesions in the lungs while working in the hospital. Of the 10 cases which showed evidence of pathology on admission, 7 con-

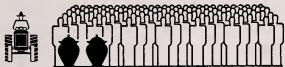
Occupation Influences Tuberculosis



Professional men



Clerks, etc.



Agricultural workers



Skilled workers



Unskilled workers

Each urn: 25 deaths from tuberculosis per 100,000 workers in the age of 25 to 44 years.

tinued to work with either clearing or no change in the lesion; one broke down with a cavity and 2 did not start work. It is most important to note that while the incidence rate was low in the Sea View group (1%) the occurrence rate was high which indicates a definite hazard from an insurance standpoint. By contrast, the tuberculosis occurrence rate among employees of a large department store was found to be a small fraction as compared with that of the nurses group.

Similar studies made among medical students have tended to show an increased incidence of tuberculous disease among them, presumably due to their occupation which throws them in contact with the open tuberculosis cases.

In a great many general hospitals, the frequency of implantation of tubercle bacilli in the previously non-infected probationers has been almost as great as in the tuberculosis wards. Many cases of open tuberculosis are admitted to the general hospital for surgical and other forms of treatment. The tuberculous disease is not suspected and the nurse takes no precautions against exogenous cross-infection while she attends the patient. The contact may be a continuous one without the tuberculous The nurse later disease ever being discovered. breaks down with the disease. The question of whether the tuberculosis acquired in a general hospital is an occupational disease will depend a great deal upon the frequency of the admission of tuberculosis to the hospital.

Store clerks, salcswomen, waiters, conductors and others who have contact with a large number of people in whom there may a high incidence of tuberculous disease. The presumption that the tuberculosis acquired in these occupations may be classed as occupational, is based on the many opportunities for contact with open cases of pulmonary tuberculosis. There must be a wide variation in the opportunities of contact infection in districts with small or high incidence of clinical tuberculosis. Think of the possibility of such contact in the 5 and 10 cent stores in neighborhoods of low economic standards. There are no definite figures as yet in such industries but the general impression is that the occurrence is frequent. The workers are not recruited from the slum sections; in some of the large cities they come from a good middle class where the incidence is not high.

Workers exposed to silica dusts. Silicosis is definitely an occupational disease. Many investigators have associated silicosis with the occurrence of pulmonary tuberculosis but the authors dispute the commonly accepted belief that the deposit of silica in the lungs renders the lung susceptible to infection by tubercle bacilli. That most of the silicotics die of pulmonary tuberculosis is a debatable question.

The present concept of the high mortality of tuberculosis is founded, not on extensive autopsy series but rather on the computations of vital statistics. This is a source of grave error, for not only can mistakes in diagnosis be made by the clinician so that the basis of the statistics is wrong, but also misleading conclusions can be drawn from the existing figures.

The authors warn of the dangers of error in differentiating between silicosis and pulmonary tuberculosis, challenge the high frequency and death rate of tuberculosis as a complication of silicosis and assert that clinical tuberculosis should not be diagnosed in silicosis unless tubercle bacilli are demonstrable in repeated sputum examinations.

Trauma. Compensation laws have directed attention to the relationship of trauma to tuberculosis. Tuberculosis has a specific etiology and, therefore, trauma cannot produce the disease. Trauma can, however, reactivate a previously existing active tuberculosis. Most of the confusion comes from the varied opinion concerning the time interval which may elapse from the date of the injury to recognition of the tuberculous disease.

Gases and vapors may also activate a preexistent pulmonary tuberculosis by producing an inflammatory process in the vicinity of the preexisting tuberculosis disease by the irritant chemicals. (Several chemicals are listed.)

Trauma plays an important role in tuberculosis of organs other than the lungs. In this group the time element creates difficulties because of inability to demonstrate the immediate spread of tuberculosis.

Tuberculosis in Industry, George G. Ornstein, M. D., and David Ulmar, M. D. Quarterly Bulletin of Sea View Hospital, Vol. IV, No. 2, Jan., 1939.

IN MEMORIAM

Inasmuch, as in the Providence of Almighty God, our friend, and fellow-physician, Dr. John Boyd McKeown of Great Falls, S. C., has been called to the Eternal Home, We, his fellow members of the Chester County Medical Society, humbly bow to the divine will, and expressing our grief and loss at his calling away, our admiration of him as a man and a physician, and calling to mind his faithfulness, patience and uprightness do hereby resolve:

First, that a page in our record book be inscribed to his memory.

Second, that a copy of this resolution be published in the State Medical Journal, and a copy be sent to his wife.

Committee for Chester County Medical Society:

Dr. W. R. Wallace, Chairman Dr. J. N. Gaston, Jr. Dr. W. J. Henry

President's Page

THREE POINT PROGRAM FOR IMPROVEMENT OF MEDICAL CARE IN SOUTH CAROLINA

- 1. A first-class medical school, adequately staffed and adequately supported by the State, to train the highest type of physician to serve the medical needs of the state.
- 2. A live medical profession continuously translating scientific knowledge and developments into the health and well-being of the people and striving to improve themselves scientifically as individual physicians and as an Association.
- 3. A thoroughly informed public who is acquainted with what the medical profession of South Carolina is doing and wishes to do for the betterment of public welfare and to render better medical care.

Faithfully your,
DOUGLAS JENNINGS

Poliomyelitis in Charleston in 1939

J. I. WARING, M. D.

Assistant Editor of the Journal,

Charleston, S. C.

Since November 1938 there have been (up to May 24, 1939) ninety reported cases of acute anterior poliomyelitis in Charleston Co.

These compose the largest epidemic which has afflicted this area in many years, and the spread of the disease has been productive of a great deal of public concern, amounting to panic in many instances.

Starting at a rather unusual season, cases appeared regularly but in small numbers throughout the winter, and began to swell to disturbing proportions in the spring, reaching a peak in early May. After a definite decline, there was a secondary lower peak which public health authorities optimistically hope is the last. The small epidemic which occurred here a number of years ago began late, but continued through August.

At first confined largely to the city, the disease has spread to various parts of the county. In the city it has been spotted pretty generally all over the map, and has appeared in all parts without showing any preference for congested districts or any respect for isolated areas. It has been of a communistic nature, with no particular favors for race, creed, or color.

The greatest number of victims have been of the preschool age, though limits have extended from six months up to twenty-one years, and the variety and extent of paralysis have been very variable. Without statistical data, one may say that there have been a number of cases which developed no paralysis, a number which developed transient paralysis, and a number which seem doomed to suffer for a longer or shorter time with paralysis more or less permanent or extensive.

Undoubtedly many cases with minor paralysis have been overlooked. Quite a number of children have been ill with what could well have been non-paralytic infections, but symptoms

have been so indefinite that strenuous diagnostic measures have not always been justified. Quite a number of cases have been recognized in the preparalytic stage.

As in other epidemics, symptoms have been variable. Now that public apprehension is aroused, symptoms are being suspected and observed earlier. Those which have been more common are: (1) Slight congestion of the throat (2) Fever, sometimes of the misnamed dromedary type, with an early rise, a lapse, and a second elevation. Fever has been slight or marked (3) Headache, ordinarily an unusual complaint in children (4) Drowsiness, deepening into semistupor in cases with encephalitic features (5) Vomiting; other than vomiting, gastrointestinal signs have been very few (6) Stiffness of the neck (7) Photophobia in a few. Facial paralyses have been rather more common than usual, and have frequently been accompanied by transient symptoms of bulbar involvement. The seven fatal cases have died of bulbar disease with central cardiac paralysis as the final stage.

Paralyses have developed on the third to seventh day of illness-most of them on the third or fourth day. Diagnosis of the nonparalytic cases has been made in the presence of some of the symptoms noted above and the presence of an elevated cell count of the spinal fluid. Counts have ranged from 3 to 2000 cells, with usually a polymorphonuclear predominance in the early cases. Lymphocytic predominance has appeared in later cases and in those cases whose spinal fluid has been re-examined. The majority of counts have run from 100 to 300. The height of the count has had no relation to the extent of paralysis. Blood counts have shown a moderate increase but have been of little assistance.

This epidemic has brought out no new information on epidemiology. There have been

multiple cases in families; three in one family, two in each of four families. In each instance only one member of the family has developed paralysis. Cases have appeared in families in which every precaution against infection has been observed. There is nothing to show that the regulation of public gatherings, closing of nursery schools, etc., has done any definite good in checking the spread, though in the present very incomplete state of our knowledge it would seem wise to use every such possible help.

The results of treatment have been very inconclusive. Convalescent serum has not been available in any amount, but blood from old cases has been used for treatment by transfusion or by intramuscular injection of serum. Our experience leaves the same doubt expressed elsewhere, that the blood is of questionable value though theoretically and potentially useful. The current panaceas, sulfanilamide and sulfapyridine, have been used in a number of cases, without positive proof of value. In the cases in which one or the other was used, there has appeared to be a somewhat more rapid drop in temperature and possibly a more rapid improvement. Several recognized preparalytic cases which received one or the other drug, with or without transfusion, have recovered undamaged, but so have others treated expectantly. The numbers are too small to warrant conclusion.

Spinal puncture has been done only for diagnostic purposes, frequently only once, as the lack of evidence of increased pressure and the absence of liability to spinal block have seemed to contraindicate the disturbance of the patient and the incidental pain and psychic trauma.

Other treatment has been symptomatic and largely expectant. As soon as paralysis has been recognized, the affected parts have been put in appropriate attitude or cast in order to hold the muscle in a neutral position and no exercise or massage has been attempted in the acute stage. Bedrest has been required for long periods of weeks or months.

The intramuscular injection of 15 to 20 c.c. of adult serum has been used in some cases with known intimate exposure. In one instance the child developed signs of poliomyelitis the day after the injection, but had no paralysis. The general use of this procedure has not been completely justified, but it seems worthwhile in contacts. As a general prophylactic measure it has little use unless it is to be repeated every two or three weeks during an epidemic, as the doubtful immunity conferred is passive and transient, nor are the repeated injections without possible ill effect on the patient.

Those cases with signs of respiratory paralysis have all had evidence of severe damage to the cardiac regulatory mechanism, so that the "iron-lung" respirators have had more dramatic and sensational appeal to the public than actual usefulness for physician or patient.

The remarks included in this article represent only an impression which may be appreciably changed by further development.

EYE, EAR, NOSE AND THROAT J. F. TOWNSEND, M.D., F.A.C.S., CHARLESTON, S. C.

NATURE AND MANAGEMENT OF THE HETEROPHORIAS

Dr. J. T. Maxwell, Digest of Ophthalmology and Otolaryngology, Jan., 1939, pg. 43

"Management of the Heterophorias—The tonic anomalies, esophoria, exophoria, and hyperphoria often require treatment and are usually amenable to such. Hyperphoria can be corrected with prisms, but it does not respond very often to orthoptic training."

"The use of prisms without orthoptic training is indicated for the correction of hyperphoria and for lateral imbalances on occasions when exercises are impracticable," but orthoptic training is of real value when conditions permit of its use, for the fusion faculty then is made to supplement the faulty muscle tonic, nerve innervation faculty.

Exophoria is (a) measured by prisms base in; (b) corrected by prisms base in; (c) orthoptic treatment is given by prisms base

out.

Esophoria is (a) measured by prisms base out; (b) corrected by prisms base out, which may be prescribed for insufficiency of convergence; (c) orthoptic treatment is by prisms base in.

"Prisms are prescribed chiefly for (a) insuf-Sciency of convergence and for (b) vertical imbalance."

With orthophoria for distance the prism convergence for 38 cm. (15 inches) is 16 prism diopters (.D.).

For comfort a reserve of an equal amount needed is necessary—in orthophoria a reserve of 16 or a total of 16 1 16=32 prism diopters is needed.

When the patient has a reserve equal to the amount in use the strain is considered to be the result of insufficient fusional amplitude.

If there is exophoria for distance more than 16 prism diopters of convergence are necessary to fixate at 38 cm.

If there is esophoria for distant vision less than 16 prism diopters are needed for near. The question of how much prism power shall

be prescribed (orthoptic training not being available) cannot be definitely answered because a physiological process cannot be reduced to a mathamatical formula.

If, at 38 cm., diplopia appears as soon as the small amount of prisms base out is used then use as the maximum amount for the first trial lens 2 prism diopters or less for each eye.

"When some fusional amplitude is present but not equal to double the amount required for single binocular vision at the given distance, the strength of prism power will vary in proportion to the deficiency. For example, if the patient is orthophoric for distance vision and can overcome only 8 prism diopters base out at 38 cm., he might be said to have a deficiency of 8 prism diopters since he should have a minimum of 16 prism diopters of reserve converging power but has only 8 prism diopters. If one assumes that a total of 4 prism diopters is the maximum that can be worn with comfort, a total of 2 deficiences, the required effect can often be attained by decontration of the lenses without the necessity of grinding the prisms."

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In cases of presbyopia, a person with insufficient convergence may need prisms for near vision only. They can be used either as glasses for reading only or as segments of bifocal lenses.

In cases of esophoria base out prismus "are of doubtful value," but *sometimes* are gratefully accepted. They should be used with the patient so told.

For hyperphoria one half or less of the hyperphoria should be prescribed.

If the infraduction phoria is less than the hyperphoria, ½ of the hyperphoria should be prescribed. If the infraduction phoria is equal to or greater than the hyperphoria less than ½ of the phoria should be prescribed.

Hyperphoria of less than 1 prism diopter needs no correction. Hyperphorias of sudden onset are usually toxic in origin.

CHESTER COUNTY MEDICAL SOCIETY

IN MEMORIAM

In the life of Dr. Septimus Jordon the medical profession has had a shining example of fidelity to service, loyalty to friends and patients, and fortitude during a period of inactivity. It can be truthfully said of him that he faced the ordeal of physical disability and finally of death itself with the undaunted spirit that he faced the great problems of life.

He was one of the rapidly disappearing number who was willing to give his best years in beneficient service to a rural community and to spend his days in meeting single handed the medical probdlems of a small town rather than to be lured by the city with its hospitals, professional comradeships, and other medical and social advantages.

He shall long live in the memory of a host of grateful patients, who's pains he relieved and whose sorrows he shared. His life was a success for

"It's sharing sorrow, and work and mirth, And making better this good old earth, It's serving, striving through strain and stress, It's doing your noblest—that's Success."

We, of the Chester County Medical Society have missed the contact of his friendly person-

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ality and like his patients, sincerely moan his passing.

We offer the following resolutions:-

First, that although we sorrow deeply in his passing, we bow in humble submission to that Divine Providence which shapes and directs the lives of all of us.

Second, we commend the examples of his heroic spirit, which was untarnished by fustration of cherished plans and of bodily pain.

Third, that we forward these resolutions to his faithful and devoted wife and two lovely daughters, as an evidence of our deepest sympathy.

Fourth, that these resolutions be spread upon a page of our minutes devoted to his memory, and that a copy be sent to the South Carolina Medical Journal.

Committee:

W. R. Wallace, Chairman

J. N. Gaston, Jr.

W. J. Henry

Explanation and Apology to South Carolina Physicians

On Friday evening, May 26th., I was called at my home in Bennettsville, S. C., by the publisher of The Myrtle Beach News who is also the publisher of The Pee Dee Advocate in Bennettsville, and who has for some time had a cut of my photograph in his files. This publisher informed me that quite a few people, particularly North Carolinians, were cancelling reservations at Myrtle Beach because of the poliomyelitis scare and he asked my permission to use a statement from me as President of the South Carolina Medical Association along with statements from the State Health Officer, the Horry County Health Officer, the Mayor of Myrtle Beach, and probably the physicians of Myrtle Beach that there were and had been no cases of poliomyelitis in that vicinity. I readily gave my consent to publishing this statement along with the health officials as, I could see no breach of medical ethics or news paper etiquette in so doing.

The medical profession of the state can well imagine my surprise and indignation when my photograph and a statement purported to me were published in a quarter page advertisement of Myrtle Beach and the pleasures to be found there in the Columbia State of May 31st. Nothing was ever said to me about publishing my photograph and I was led to believe that a simple statement from me concerning the absence of poliomyelitis and the absence of danger therefrom to be used with similar statements from other physicians was all that was requested. Statements from others were not published.

I feel that not only my name but that the office of President of the South Carolina Medical Association has been degraded, in a commercial way, and I sincerely apologize to the medical profession who have so highly honored me, for this happening and I am demanding a public apology of the publisher of The Myrtle Beach News and The Pee Dee Advocate of Bennettsville, and of the Columbia State.

DOUGLAS JENNINGS, M. D., President South Carolina Medical Association.

Bennettsville, S. C. June 1st, 1939.



NEWS ITEMS

Dr. Douglas Jennings, President of the South Carolina Medical Association, is calling the members of all the committees of the South Carolina Medical Association, the officers of County and District Medical Societies, the members of the Council and the officers of the State Medical Association for a meeting to be held in Columbia at 5 P. M., June 12, to consider the three point program as outlined on the President's page in this issue of the Journal and other activities for the ensuing year.

Dr. J. D. Guess of Greenville, and Dr. Manly E. Hutchinson of Columbia, passed successfully the American Board of Obstetrics and Gynecology at the session just held in St. Louis during the meeting of the American Medical Association.

Dr. T. L. W. Bailey of Clinton, one of the best known general practitioners in the State and for many years a Councilor of the Third District Medical Society of the State Medical Association, is a patient at the South Carolina Sanatorium at State Park. Dr. Bailey is an Honorary Fellow of the State Medical Association.

The Program Committee of the Piedmont Post Graduate Clinical Assembly met at Anderson recently and fixed the date of the Assembly as September 19, 20, 21. Cancer will be one of the objectives of the Assembly this year but a wide range of other subjects will be provided for and many distinguished lecturers will appear on the program. There will also be scientific and commercial exhibits.



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The Diagnosis of Rheumatic Disease in Children

WILLIAM J. BALL, M. D., CHARLESTON, S. C.

Rheumatic disease, so common in colder climates as to account for about one fifth of the beds usually occupied in the Children's Memorial Hospital¹ in Chicago, is seen rather infrequently in the South. However, it is not a rare disease, as the diagnosis has been made 24 times in the past 4 years, on the children under twelve who have been admitted to the Roper Hospital. Since it is unusual in this climate, and often difficult to recognize, a study has been made of those characteristics, demonstrable both clinically and by the laboratory, which aid in the recognition of its presence and activity, and of some of those conditions with which it may be confused.

The major clinical manifestations of rheumatic disease are arthritis, carditis, and chorea. Of these, carditis is the most important, as it leads most often to permanent damage. The others are significant chiefly because they indicate the probability of injury to the heart. These conditions usually occur in combination. This most often consists of arthritis and carditis, though either of these may have its onset alone. Chorea is found by itself in at least half of the cases. However, it is so often preceded or followed by other manifestations of rheumatic disease that it is included in the rheumatic group by most observers, even though its symptoms are strikingly different.

From the Department of Pediatrics, Medical College of the State of S. C. Illustrative cases from the Pediatric Service of the University of Chicago Clinics.

ARTHRITIS

Arthritis, the classical symptom of rheumatism, has a different appearance in the child from that in the adult. In the older child there may be the very painful, tender, red, swollen joints which are characteristic of the disease in the adult, but in the pre-school and primary grade child, in whom the disease is much more common, it is much milder, and may even be overlooked. The onset is sudden or after a brief period of ill health. Pain may be sufficient to keep the child from playing active games, but not enough to make him complain. The joints often become somewhat swollen and hot, but this is so mild and so transitory that the patient and his parents often do not notice it. Redness is usually not present, unless swelling is marked. Tenderness is seldom severe enough to cause the patient to be apprehensive about being touched. The symptoms in a given joint tend to subside spontaneously within a few days, later reappearing or migrating elsewhere. The elbows, knees, ankles, and wrists are most often involved, but no joints are immune. Fever is present during most attacks, and sometimes may be quite high, especially at the onset.

The very mild nature of the joint manifestations in many instances has led to the confusion of this condition with the very common so-called "growing pains," occurring in childhood, either because of the belief that these pains are actually due to rheumatic fever,

or because of failure to differentiate them from true rheumatic pains. Children with them have been kept in bed for long periods, and even been said, incorrectly, to have heart disease. Very recently, Hawksley², in England, and Shapiro³, in Minnesota, have reported studies of the relationship of these conditions, with the conclusion that they are entirely independent, and have given certain definite criteria for their distinction, which we will summarize as follows:

Growing pains usually come on at night, after the child has gone to sleep, are often severe enough to cause him to cry, disappear by morning, and never bother him during the day. Rheumatic pains disturb the child least when he is warm in bed, seldom cause him to cry, at any time, are most noticeable in the morning, when he gets up, continue on through the day, and are made worse by motion, often causing a limp.

Growing pains have their onset at any time during childhood, and may continue through adolescence, whereas the peak incidence of rheumatic fever is between 6 and 7 years, and diminishes much by puberty.

Growing pains are located in the muscles and tendons of the legs and thighs, and occasionally the back and around the knee joint, but almost never involve the upper extremities. Rheumatic pains are in the joints themselves, of both upper and lower extremities, and are accompanied by signs of inflammation in many instances.

The child with growing pains generally is in good health, though he may be quite irritable, and, in many instances, shows some postural or orthopedic defect which is responsible for his pains. The child with rheumatism, on the other hand, usually gives a history of previous respiratory infection, and has some other clinical or laboratory signs of disease.

Finally, growing pains are no respecters of persons, occurring in all classes of society, and in all climates, whereas rheumatism is essentially a disease of the poor, particularly in cold, damp places.

CARDITIS

Rheumatic carditis most commonly occurs during the course of some other manifestation, usually arthritis, but it may occur alone. If it accompanies arthritis, the first noticeable sign of it is a persistent systolic murmur at the apex, and an enlargement of the heart to the left. In other cases, the arthritis may apparently subside, leaving the child mildly indisposed, but without any particular complaint. In still others there are no preceding attacks, or these are so slight that they are unnoticed. These are the cases in which the disease may be overlooked, until there has been extensive damage to the heart. For example, a girl of 5 was brought into the clinic, just because it was convenient to bring her with her younger brother, who had some special complaint. It had been noted that she was not doing quite as well as usual recently, but she had no joint pains, or any other symptoms pointing to rheumatism, or any story of a previous attack. On examination she was found to be quite pale, with faint cyanosis around her mouth, a very rapid pulse, slightly elevated temperature, and a very much enlarged heart, with a gallop rhythm and a to and fro murmur at the apex. It was only after a year of hospitalization and convalescent care that she was able to resume anything approaching normal activity.

Whether or not there is a history of previous rheumatic disease, sufficient care will elicit the history of previous respiratory infection in a significant number of cases.

The appetite is usually poor, and the child may have seemed less active than before. Aside from these there may be no definite complaints in an early case.

The temperature is usually elevated, sometimes quite high, though it may be normal, or only slightly elevated, in the presence of very severe disease. One girl of 13 years was followed over a period of 3 weeks, to a fatal termination, during which time she never had a temperature of over 101, though she had all the signs of a fulminating infection, with arthritis, pancarditis, and pulmonitis.

The pulse is much more constantly elevated than the temperature, and is probably the best clinical sign of the activity of the infection. On bed rest, it may be within normal limits, in the presence of an active lesion, but quickly becomes elevated again if the patient attempts anything further. Disturbances of rhythm are

uncommon. Extra-systoles occur occasionally. Auricular fibrillation is found only in patients with severe and longstanding disease, and is said to be usually indicative of an early fatal outcome. In my experience, the only patient with this lesion was still alive at least a year after its onset, her activity very much restricted, under constant treatment with digitalis.

Pallor is a striking characteristic of the child with active rheumatic heart disease. It may be marked, in the presence of only a moderate degree of anemia, and tends to persist as long as active disease is present.

Pain over the precordium, and over the upper abdomen, is not uncommon. It may be due to pericarditis, but, in a mild form, is sometimes found in patients with severe disease and marked enlargement of the heart.

Epistaxis is considered to be a common symptom, but was not in my brief experience. Sweating, one of the classical symptoms of rheumatic fever in the adult, seldom, if ever, occurs to a significant extent in the child.

Any of the symptoms of congestive heart failure may occur. However, it must be borne in mind that, in the child, it is the result of active heart disease at the time, in practically all cases, and is not, as it usually is in the adult, the result of long standing structural damage and an exhausted myocardium.

Examination of the heart reveals that it is enlarged downward and to the left, to a varying extent, in practically all instances. X-ray examination will show that this enlargement involves the entire heart, and is not more marked in one portion than another. murmur, loudest at the apex, is most often found, and may be one of the earliest signs of heart disease. Later in the disease, sometimes months after the onset, a lowpitched diastolic murmur, loudest just within the apex, very localized and very difficult to hear, may appear. In the early stage of the disease, these are due to the wide dilatation of the heart. rather than to actual damage to the mitral valve, so that in patients who make a complete early recovery, they may disappear altogether. A diastolic murmur, loudest at the aortic or pulmonic area, and heard over the base of the heart, indicates organic disease of the aortic valve. It is very high-pitched in quality, and

may be heard better with a diaphragm than a bell chest piece. Sometimes it is audible only with the patient in the sitting position. More often than not it is accompanied by the systolic murmur already described. Other murmurs than those mentioned may be found, but they do not occur alone, and are of no diagnostic significance.

Rheumatic pericarditis occurs alone in a fairly large number of cases. According to some authors4, it may be the earliest manifestation of rheumatic disease, and be unaccompanied by any other signs of activity. In such cases its presence is shown by highpitched sounds, varying in time and intensity, heard best over the base of the heart. A syndrome of pain in the upper left quadrant⁵ occurring only on locomotion, has been described in association with this early pericarditis. In general, however, pericarditis has been found to be one of the more serious manifestations, and is accompanied by all the usual signs of activity, though there may be no evidence of arthritis or valvular disease. Pain over the precordium or upper abdomen is usually present, and a definite friction rub is found at some stage of the attack. The presence of effusion is difficult to determine, as it can be closely simulated by a widely dilated heart.

Rheumatic carditis may be accompanied by certain extra-cardiac manifestations of rheumatism, which are almost never seen, except in its presence. The most important of these are subcutaneous nodules, which are of more prognostic than diagnostic significance, the heart disease which they accompany being usually both severe and obvious. They are firm, elastic feeling nodules, varying in size from something barely palpable to a lump a centimeter or more in diameter, lying in the subcutaneous tissue, not attached to the skin. They are best found over boney prominences, as in the region of joints, over the vertebrae, and under the scalp, and tend to have a symmetrical distribution.

Pulmonary involvement is also of more prognostic than diagnostic significance, as it occurs only with severe active heart disease. Clinically it produces very few symptoms referable to the lungs, but definite signs, as pleural friction rubs and areas of consolidation,

are not uncommon. They were found in 28% of the fatal cases reported from the House of the Good Samaritan⁶, in Boston.

Another manifestation of rheumatic disease, which usually accompanies carditis, is the annular erythema first described by Lehndorff and Leiner, and considered by them to be pathognomonic of active infection. sists of a thin, wavy line, rather dark red in color, which forms crude, and often incomplete circles, chiefly on the trunk, but sometimes also on the extremities. These erythematous patterns may persist for days, or disappear within a few hours, to recur within the next day or so. In one patient such a rash appeared almost every afternoon around 3 o'clock, and disappeared by night. In its typical form this erythema is most characteristic, though it may be confused with some forms of urticaria.

CHOREA

Chorea, when it occurs alone, has nothing in common with the other types of rheumatic manifestation. The child complains of no pain, has no fever, and no symptoms referable to his heart, and there is no laboratory evidence of infection. It appears to be a purely functional disorder, and some observers⁸ deny that it is in any way connected with rheumatic disease. It is included in this study because of the frequency with which it is either associated with or followed by the development of rheumatic heart disease.

The first characteristic feature of chorea is spontaneous involuntary movements, which do not follow any set pattern, and which disappear during sleep. In the beginning, these may be so slight that the child is merely thought to be awkward or restless, but when fully developed, they may be so marked that the patient is entirely helpless, and so violent that they may cause him to injure himself. Because of them, the tendon reflexes are elicited only with difficulty, and have a tendency to hang up. Speech becomes difficult, is not impossible.

The second characteristic feature is muscular weakness, which may be so severe as to cause the condition to be confused with actual paralysis. Since it is sometimes much more pronounced on one side of the body than the other, some patients give an appearance somewhat resembling hemiplegia.

The third, and often the most outstanding feature is a change in the disposition of the child. He may previously have been quite well behaved, but, with the onset of the disease, he becomes irritable, moody, and emotionally unstable, frequently to such an extent that his other symptoms are completely overlooked by his family.

Fully developed chorea offers few difficulties in diagnosis, but the mild form may be very hard to recognize. Careful examination will always reveal some incoordinate movements or uncertainty of muscular control. All actions are begun with some hesitation, and then carried out as rapidly as possible, as if in fear of something happening to them. Speech tends to be explosive, with sudden difficulties. and even intervals of complete aphonia. If asked to sit absolutely still, the child may be able to control his twitchings momentarily, but they soon break through and become more noticeable.

During the course of chorea, carditis and arthritis may appear, but their course is milder, and their residual damage less severe than when they occur independently.

LABORATORY FINDINGS

The laboratory has developed several procedures which are of value in the diagnosis of rheumatic disease, particularly the determination of the presence of activity.

Examination of the blood shows a secondary anemia of varying degree as a constant finding. A moderate degree of leucocytosis is usual, with a corresponding shift in the Schilling hemogram, but this may return to normal, in the presence of an active infection.

The sedimentation rate constitutes the most reliable index of activity. As long as it is elevated, the patient is best kept in bed, as other signs will probably appear, if he is allowed to be up. Correction for anemia is best done by measuring the distance settled at frequent intervals during the test, so that the actual rate of fall can be determined as accurately as possible. Cutler⁹ and his co-workers have shown that anemia influences the sedimentation rate only insofar as it influences the volume of the packed red cells at the bottom of the tube.

It is interesting to note that the behaviour of the sedimentation rate in severe congestive heart failure is paradoxical. In this condition it is usually within normal limits, often quite low, in spite of the fact that this is due, in almost all instances, to active, and severe, rheumatic disease. As recovery sets in, the rate rises to a high figure, returning to normal later, when the activity has subsided, even though the heart may be permanently damaged.

Cultures of the blood, and titrations of its complement and antistreptolysin content have been done, but these procedures are of no diagnostic value at the present time.

The electrocardiogram is often called upon to help, in the diagnosis of rheumatic heart disease, and may be of great significance, though not all children with this disease show changes in their tracings. McGee¹⁰ states that some abnormality can be found in all cases, if searched for sufficiently often, and may sometimes be the first definite sign noted. Increase in the PR interval is very common, and is probably the most diagnostic finding. The most common finding in my experience was some change in the QRS complexes, in one or more leads. Other findings which occur fairly often, and are suggestive, though not diagnostic, are shifts of the RST segments, prolongation of the QT interval, and changes in the T wave.

During the last few years the medical journals have been decorated at intervals with pictures of a physician looking very wise and thoughful while listening to a child's heart with an electrical stethoscope. This same interval has not been marked, so far as I could find, with reports of the efficacy of this instrument, nor have I met anyone who regarded its use with sufficient enthusiasm to mention it. However, Lockhart¹¹ has described, and Me-Kee12, 13 has reported on the use of an instrument known as a stethograph. essentially a combination of a microphone and a string galvanometer, so that the heart sounds can be visibly recorded, after the manner of an electrocardiograph tracing. The reports indicate that it may be of considerable interest to cardiologists, as a means of recording heart sounds, and of some limited diagnostic value, though only in the hands of someone who is familiar with it. Even in the normal individual it reveals more heart sounds than are audible

to the unaided ear, so that it would only serve to confuse the uninitiated.

Radiography is of value chiefly in determining the presence and extent of cardiac enlargement. Because of the normal variations in the size of the heart, this is sometimes quite difficult, so that some workers have developed a formula, for determining the probable normal size of the heart in a given child, but this has not come into general use. The special configurations of the heart shadow which are typical of the different varieties of valvular disease in the adult are not often found in the child. The presence of pericardial effusion may be ascertained by film and fluoroscopy, but a widely dilated heart may simulate it in every detail.

In summary, the symptoms and signs of the various manifestations of rheumatic disease in children have been discussed, and the laboratory aids in the determination of its presence and activity have been reviewed.

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Goiter in Adolescents with Special Reference to Hyperthyroidism

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It has been tersely stated: "The calendar limits of childhood are a matter of perennial discussion in the great American home, but acceptable conclusions are never reached." It is impossible to define the limits of that physiologic process we call adolescence, or puberty, occurring in boys and girls ushering them into the mature state of the adult. This transition of endocrine adjustment is a personal equation in which there are many problems of great interest to the doctor—the incidence of thyroid disturbances particularly to those of us interested in diseases of the thyroid gland.

The onset of puberty and the stage of adolescence (the terms are not exactly synonymous) cannot be measured in terms of age, but must be measured in terms of endocrine activity expressing itself in development, or, what we call, approaching maturity. Not infrequently this endocrine activity fails to follow what are ordinarily considered established rules. In such instances growth and development of the body as a whole or of specific organs or structures may be inhibited, accelerated, or otherwise impaired. "A little light has been thrown on the action of the glands of internal secretion, but it seems improbable that their physiology will be as well understood as that of other organs and systems until methods are devised to measure each of the circulating hormones in the human body. When such tests are perfected and simplified it will be possible to measure the amount of hormone which is probably acting at a given time and thus make clearer the action of individual glands as well as their effect of one upon another." This statement certainly applies to the problem of goiter, particularly adolescent goiter, and to hyperthyroidism in general. We do not know the cause of hyperthyroidism, but it is wholly possible that the final answer to its etiology will be found in the endocrine system.

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In studying rather extensively this problem of adolescent goiter, my own series is not sufficiently large to warrant definite conclusions. I find that I must accept and follow somewhat closely the teaching of Hertzler, certainly in so far as the sequence of pathologic changes is concerned. His reasoning is based on a vast experience both as pathologist and surgeon, and does seem to be clear and logical.

These nontoxic diffuse goiters are uniformily enlarged and cause no constitutional disturbance. The only goiter which can so behave is one in which there is only distention of the individual acini with colloid, without the formation of new acini or other cellular changes. Such goiters are found in persons not fully developed, and because there is no cellular proliferation, they are capable of spontaneous recovery. This is the type so frequently seen in young girls just before or at the beginning of menses. Such changes are purely functional. We have all seen girls of ten, twelve or fourteen years of age with such goiters; we have also seen them some years later with no evidence at all of thyroid enlargement. Endocrine adjustment has then taken place. These goiters are, of course, not surgical, and it is doubtful if any treatment is necessary. They should be carefully watched, however.

It happens that some of these patients will develop signs and symptoms of exophthalmic goiter. This means that something has happened inside these simple colloid goiters; small new follicles are forming and perhaps small papillary projections of epithelium are extending into the lumen of the distended acini without necessarily influencing the form of the goiter. This development is slow and insidious. Hertzler considers it advisable to discuss these goiters under three heads:

- 1. Colloid goiter of childhood without organic change.
- 2. Colloid goiter of childhood with papillary formation.

3. Colloid goiter with acinal proliferation.

So there are two courses either one of which these simple goiters may follow. They may undergo spontaneous recovery, with or without medical treatment. Probably most of them do. This will happen provided papillary formation and cellular proliferation have not occurred. On the other hand, the stage may get set for an actual or potential cardiotoxic goiter. Children, especially those unusually bright, may develop eye signs, nervous phenomena characterized more frequently by irritability rather than tremor, and some speeding up of the pulse rate. These goiters may not be different on palpation, grossly or on cut section from the simple colloid goiters, but microscopically papillary projections of epithelium into the acini are seen. The symptoms in these cases may regress to some extent and then remain stationary throughout life. In spite of the fact that many such goiters do regress, they are potentially surgical cases, although frequently the conscientious surgeon will be in a dilemma as to what to do. This will be discussed later. If exophthalmos is definitely present, operation may be necessary to relieve it. Border-line cases with early signs of true Basedow's disease are sometimes seen—usually after or in late puberty; they are quite rare in earlier childhood.

If regression does not take place, or does so imperfectly, it means new acini are forming and the goiter tends to merge into the nodular variety. In such cases hyperplasia is taking place, and once acinal proliferation occurs there can be no return to the normal. Sufficient nodulation may not be present to determine on palpation, and the appearance of the goiter clinically, grossly and on cut section may simulate simple colloid goiter, but the histologic picture will tell the story. Does hyperplasia in itself lead to cardiotoxemia, or, must it first give way to degeneration? It is difficult to saythere are two schools of thought. It would seem, however, that such goiters are definitely surgical problems.

Fetal adenomas are not infrequently seen in children and adolescents when the tumor is about the size of an ordinary marble. They are sometimes felt in the soft goiters as small firm nodules, and they do not recede in size with or without medical treatment. They may enlarge. Hemorrhage into these encapsulated tumors may be severe, and they sometimes undergo malignant degeneration; for these reasons, if no others, they should be handled surgically.

Hyperthyroidism is not a common disease in children. Just as the goiters of childhood develop most frequently synchronously with the second periodic increase in growth of the thyroid gland which occurs just before and during puberty, so is the incidence of hyperthyroidism considerably greater at this adolescent time of childhood. There is a tendency towards exacerbations and remissions and a perusal of the literature will soon convince one of the high morbidity and mortality rates occurring in the neglected cases. On the whole, adolescent hyperthyroidism is progressive.

The basic cause is unknown, and it is beyond the scope of this paper to discuss the various theories of hyperthyroidism, except to mention a few in passing: Heredity undoubtedly is a factor in a number of cases, and many of us have seen evidence of this in our case histories. The interrelation of the thyroid and other endocrines, especially the anterior pituitary, is significant—what little we know about them! Uhlenhuth, in 1936, delivered the Van Meter Prize Essay before the American Association for the Study of Goiter which summarized his experimental work on the anterior pituitary leading to the conclusion that there is a specific hormone, the thyreoactivator, excreted by the hypophysis whereby this gland controls the activity of the thyroid. The idea that the use of iodized salt may be an etiologic factor is questionable. There are those who claim that iodine medication has neither produced hyperthyroidism nor lessened its incidence in children; others with data that seem. indisputable, claim otherwise. Infection unquestionably may aggravate an existing hyperthyroidism, but it cannot be seriously considered as a cause.

The symptoms of hyperthyroidism during the puberty and adolescent periods of life do not differ greatly from those observed in adults with Graves' disease, except, perhaps, in severity. Practically all of them complain of nervousness, tachycardia and thyroid enlarge-

ment. The nervousness is frequently that of irritability or excitability; actual tremorcertainly pronounced tremor-occurs less frequently than it does in adults. Not all cases will present loss of weight, moist skin, and general weakness, especially quadriceps weakness. Exophthalmos and other eye signs will occur in 60 to 80 per cent of cases. In those cases where sweating and tolerance to cold are present, such symptoms are usually quite marked. Physical overdevelopment and slight to moderate precocious sexual development are not uncommon. In severe cases gastrointestinal disturbances, especially diarrhea, are common symptoms. It should be borne in mind, however, that the stormy crises and upsets so often seen in adults with Graves' disease are strikingly lacking in children and adolescents.

The symptomatology of hyperthyroidism in children and adolescents is frequently fairly characteristic, but it may tax the keenest diagnostic acumen to make a clear-cut differential diagnosis, or particularly to decide on the proper course of treatment! Lehman remarks in his article on hyperthyroidism in children, "The diagnosis is usually readily established if the condition is borne in mind. Nervousness, tachycardia, and thyroid enlargement are present in almost every case. If to this is added hyperhidrosis and heat intolerance, the diagnosis is clear." True, perhaps, in children, but what about the adolescent girls (and less frequently boys) with endocrine adjustments trying to take place? Many of these older children are nervous, more or less "flighty," restless, of the "skinny" type, in spite of a good appetite, their metabolism is normally elevated, and so on. The surgeon must decide if he is dealing with a functional disorder incident to puberty, a definite hyperthyroidism associated with hyperplasia of the thyroid, or some other condition which may give rise to one or more of the above symptoms, or simulate them sufficiently close to make a difficult differential study. Cooperation of the internist, pediatrician, and clinical pathologist with the surgeon is often necessary to secure a correct opinion. Among the conditions to be ruled out in establishing a diagnosis of adolescent hyperthyroidism are: the physiologic transition phase from childhood to maturity, simple colloid

goiter particularly in a high-strung type of youth, incipient tuberculosis, neurocirculatory asthenia, chorea—especially chorea in its milder manifestations, rheumatic heart disease as well as other cardiac conditions, undulant fever and others. Seed and Poncher have approached the problem of differential diagnosis by considering the character of the usual symptoms as they occur in hyperthyroidism rather than discussing the various conditions hyperthyroidism may simulate. I shall follow the same plan.

- 1. Tachycardia should be persistent and is expected to be associated with an increased pulse pressure. It must be remembered that the pulse rate in childhood is more rapid than in adults. The pulse pressure is roughly proportional to volume output of the heart per beat and is increased. This accounts for the forceful beating of the heart and prominent pulsation of the carotid arteries often leading to a diagnosis of organic or valvular heart disease. The same symptoms may be present in the functional group, but they are much milder. A child with a systolic pressure of under 120 mm. or with a pulse rate of less than 120 beats per minute is not likely to have exophthalmic goiter. There are undoubtedly border-line cases in adolescents where this assertion does necessarily hold. Generally speaking, however, I do believe that the tachycardia should be persistent in spite of the findings in Case 2.
- 2. Nervousness is quite pronounced and the same significance attached to the fine tremor in adults is of less significance in adolescents. Their nervousness is more likely to be manifested by irritability and restlessness, they are not still and move about frequently—even to the extent that a diagnosis of chorea has sometimes been made. Those children who give a life-long history of nervous instability, whose reactions vary from day to day and are definitely influenced by external factors most likely fall in the functional group and probably do not have hyperthyroidism, where the nervous manifestations frequently occur more or less suddenly.
- 3. Thyroid enlargement in the adolescent age, or younger, is of little aid in establishing a differential diagnosis, but it does mean that one must hesitate in making a diagnosis in its

absence. A bruit heard over the gland is helpful, and will occur in about half the cases, but must not be confused with a carotid bruit or venous hum. Frequently the administration of Lugol's solution will cause the gland to increase in size and firmness, probably occurring only in cases of exophthalmic goiter. General physical improvement under Lugol's solution is of great significance and usually takes place inside of two weeks, although not necessarily so.

- 4. It may be extremely difficult to determine if early exophthalmos does exist. A definite stare may be a begining exophthalmos, but there should be elevation and retraction of the upper lid which normally lies below the level of the iris. Eye signs are of such frequent occurrence that it is doubtful if a youth has a toxic goiter in the absence of such signs. In Helmholz's series 80 per cent had exophthalmos or a stare.
- 5. Loss of weight and strength may, of course, take place in numerous diseases, but in only two are they associated with a normal or increased appetite. These are diabetes and exophthalmic goiter, and the differentiation should not be difficult. This symptom is not always present, for every now and then we see only a slight weight loss, or even an actual gain.
- 6. Basal metabolic studies in suspected adolescent hyperthyroidism must receive individual consideration and special attention. There is a decided lack of agreement on normal standards for children and especially during puberty. It is extremely difficult to get as satisfactory determinations as in adults, and it is therefore better to make several determinations on hospitalized patients. Metabolism is increased in the prepubescent period and reaches its maximum about the time menstruation is established in girls and sexual maturity in boys; afterwards it begins to decline. It has been found that the height and duration of this increased metabolism varies with nearly every child. Of course, metabolic studies should be made in every case and evaluation attempted, but in adolescents especially, a metabolism machine should under no circumstances be allowed to do our thinking for us. I do lay much importance, however, to a drop in metabolism after iodinization, and particularly so if

such a drop is accompanied by general improvement of the patient.

7. Probably the most important factor in the differential diagnosis is to be found in the researches of Althausen of the School of Medicine of the University of California. As a result of his studies on the influence of the thyroid gland on intestinal absorption he has devised a new clinical test for hyperthyroidism. This consists in the determination of the blood sugar, then administering galactose by mouth and at proper intervals thereafter making determinations of the blood sugar. A definite rise in the curve is indicative of hyperthyroidism. This study won the Van Meter Essay Prize at the recent meeting of the American Association for the Study of Goiter in Cincinnati. Dr. Althausen kindly gave me permission to use this information in this paper, although his researches have not yet been published. This test seems to be remarkably accurate, and should be of untold value in differentiating real hyperthyroidism from other conditions, especially in adolescents.

A word as to treatment. It is perfectly obvious that adolescent goiters are not surgical problems unless hyperthyroidism, proved beyond reasonable doubt, is present, or, unless a fetal adenoma is palpable. It is also true that when definite hyperthyroidism is present, such cases should be in the hands of the surgeon. X-ray and medical treatment have not been generally successful, and I should be particularly afraid of the former in young, growing adolescents. It is conceivable that there may be the rare case in which surgery is contraindicated. Undoubtedly the overwhelming evidence in favor of surgical therapy must be recognized by the immediate and late results of operation and by the testimony of the patients them-

The treatment of hyperthyroidism in adolescents is little different from the treatment of hyperthyroidism in adults. The diagnosis having been established, the patient should have proper preoperative preparation. This consists in lugolization, rest in bed with the administration of sedatives if necessary, and possibly intravenous dextrose and a high carbohydrate diet. The use of vitamin B-1 has been emphasized. Checks on the metabolic rate are im-

portant. The most favorable time for operation is determined by the decrease in the metabolic rate and the general improvement of the patient. I suspect I am more radical in thyroid surgery than some surgeons, but I do believe it is bettter to resect a smaller amount of gland than one ordinarily does in an adult. This, I think, is the general concensus of opinion, although there are those who believe otherwise. Local infiltration with 1 per cent procain, with or without paracervical block and with preliminary sedation, is my choice of anesthetic. It is frequently advisable to give children a general anesthetic of cyclopropane or nitrous oxide, but it must be remembered that in using the former, electrosurgery is prohibited. Some surgeons use avertin combined with local infiltration or nitrous oxide—oxygen. Ether, I firmly believe, is absolutely contraindicated. The postoperative care is no different from that in adults.

CASE REPORTS AND COMMENTS

Case 1. Miss E. M., 14, gave a history of a soft goiter for about three years. Her complaint was moderate nervousness. All her life she had been a high strung type of girl, quite active and a better-than-average student. There had been no tremors, no eye signs, no weight loss—only nervousness and a palpable soft goiter, diffusely enlarged. Basal metabolism was not determined. She had no treatment. Six years later, in spite of an intervening automobile accident in which she was rather painfully but not seriously injured, there is only the suggestion of thyroid enlargement, there are no nodules in the barely palpable gland and her basal metabolic rate is minus 6 per cent. She has no signs or symptoms of hyperthyroidism other than moderate nervousness.

COMMENT. There is nothing unusual in this patient, and we frequently see these simple, soft goiters of puberty in girls. There is no reason why minute doses of iodine as obtained in foods with sufficient iodine content should not be given to them. This young woman is clinically well under no treatment at all. Did she have a few papillary projections into the original colloid filled acini followed by regression? It is my opinion she had a simple colloid adolescent goiter with spontaneous recovery.

Case 2. Miss C. Mc., 10 1/2. When 9 years of age her mother noticed enlargement of the thyroid and took her to their family doctor, who made a diagnosis of adolescent goiter and advised the use of iodized salt. The goiter continued to enlarge and

the child became more nervous in the interim. When first seen by me she was definitely underweight (59 lbs.). She did not appear to be especially nervous, even in a strange doctor's office, but her mother said otherwise. Blood pressure was 94/78 and the pulse rate 84 beats per minute. There was a rather large diffuse soft goiter. Her basal metabolism was minus 14 per cent. Except for the external genital development which was that expected in a twelve or fourteen year old girl, her examination was otherwise negative. I made a diagnosis of prepuberty colloid goiter and put her on small doses of Lugol's solution, one or two minims twice daily, with instructions to return in three or four weeks.

She returned six months later with all the signs and symptoms of hypothyroidism. Her weight was 90 pounds, the lips thickened, she had a rather stupid expression, and so on. Her mother said she had become lethargic and disinterested in her play and school work. She still had her goiter and her basal rate was minus 22 per cent. Small doses of dessicated thyroid were prescribed and she was again sent to her home (about 50 miles away) with instructions to return in two weeks for observation.

I did not see her again until four months later when she returned with obvious Graves' disease. Exophthalmos was marked, tremor of the extended fingers slight but definite and she was extremely nervous and quite irritable. Her pulse rate was from 85 to 90 and consistently so! Blood pressure was 110/76 and her weight 64 pounds. Basal metabolism was checked at plus 35 per cent. Subtotal thyroidectomy was performed under nitrous oxideoxygen anesthesia, removing about three-fourths of each lobe. At operation the gland was found to be symmetrically enlarged approximately three times the normal size and had the typical "beefy" appearance of toxic diffuse goiter. Convalesence was entirely uneventful, and she was dismissed from the hospital on the fifth postoperative day.

The pathologist's report: "The cut surface of the gland is homogeneous. Colloid material is practically absent. The gland is, grossly, typical of Graves disease. Microscopically there is practically no colloid in the entire gland. The sections show immature alveoli and circumscribed group of lymphoid cells."

Subsequently she has shown continued improvement. A year after operation her exophthalmos had disappeared. She has done good work in school and seems to be a normal child. Three years later she remains well. Her menses have become established, and adolescence is progressing normally.

COMMENT. Here is a patient who started off with a simple colloid goiter of childhood and went through various phases of thyroid disturbances. What other endocrine imbalances have been at work and what influence medication had upon them, is difficult to say. Under Lugol's solution in very small doses,

she became markedly hypothyroid. Then under small doses of dessicated thyroid she became, in four months, markedly hyperthyroid. I did not have the opportunity to observe this patient at the frequent intervals she should have been seen; otherwise it is likely that both extreme states could have been avoided. She was operated on for a typical Graves' disease and made a complete recovery. It is interesting to note that the pulse rate was never increased, nor was the blood pressure abnormally elevated. She did have, however, a slightly increased pulse pressure over that when first observed.

Case 3. Miss H. B., 13 1/2 was seen with an attack of acute appendicitis and operated upon. During the course of her examination a soft diffuse moderate enlargement of the thyroid was noted. Due to the urgency of the condition (she had a gangrenous appendix) further studies including metabolism were not done. She recovered normally from her appendectomy and for two years had no symptoms even remotely suggesting hyperthyroidism other than slight enlargement of the thyroid. She was in every respect a normal, healthy, stable, and care-free girl. She married at the age of 16, two years ago, and now has two children, the younger one being two months old. For the last four months she has complained of choking sensations, considerable enlargement of the goiter, and markedly increased nervousness not relieved by parturition. There was no evidence before, during or immediately after her first pregnancy of hyperthyroidism. Now she has the appearance of definite hyperthyroidism, tachycardia, extreme nervousness, tremor, and enlargement of the goiter. There is a definite stare. She has not reported for basal metabolic studies, but regardless of what such study may show, I know she has a toxic diffuse goiter and will undergo thyroidectomy at an early date following preparation.

COMMENT. A definite nontoxic goiter of puberty in a girl who married young and at her second pregnancy became a toxic diffuse goiter. Why did she become hyperthyroid during here second pregnancy and not during her first? What endocrine upheaval took place during the second pregnancy and not during the first to transform a simple colloid goiter of childhood, or possibly a quiescent goiter, into one certainly toxic? We must know more about the endocrine system before this question can be answered!

Case 4. L. B. is a 15 year old mountain boy who recently underwent thyroidectomy for a toxic diffuse goiter. A year ago he was seen in a clinic in Western North Carolina by another physician who made a diagnosis of toxic goiter and advised the boy to

take Lugol's solution in ten minim doses thrice daily. This he did for about six months with considerable improvement and then discontinued the drug. Recently he again appeared at the clinic with symptoms even more marked than before. physician advised his father to bring him to me in Charlotte. His complaint was increasing nervous ness and tachycardia. When about twelve years of age he noticed that he was becoming more nervous. Approximately a year before that he noted a swelling in his neck and thinks that in all likelihood there had been some enlargement even earlier. He had lost about fifteen pounds in weight in spite of a good appetite, there was hyperhidrosis, he could stand cold much better than formerly and "felt his heart beat all the time." Examination revealed a slender boy with a definite stare, a large pulsating, diffuse, smooth goiter with a bruit, fine tremor of the extended fingers and a pulse rate varying between 110 and 140 beats per minute-consistently so. He was very restless and would not sit still. Blood pressure was 140/78. The external genitals were well developed for a boy his age. Basal metabolism was checked at plus 65 per cent.

He was hospitalized and kept at rest in bed under mild sedation. Lugol's solution was given in large doses. (Twenty minims thrice daily by mouth and forty minims daily by proctoclysis) Intravenous glucose was also administered. After three days his improvement was so marked that I considered it safe to proceed with thyroidectomy. This was done under local infiltration anesthesia with preliminary sedation. On cut section the gland had the typical "beefy" appearance of exophthalmic goiter. The pathological report was typical Graves' disease. He had an extraordinary smooth convalesence, and on the third postoperative day he voluntarily said: "Doctor, I feel better than I have in many months." He was dismissed to return home the seventh postoperative day. He has not returned for a check-up but reports that he is doing fine, feels good, and that the wound has practically healed.

COMMENT. It was difficult to get a good history on this boy. I do not know exactly how long he had his hyperthyroidism, but I do know that he apparently had a symptomless goiter for over a year before the fairly sudden onset of nervousness. Yet, with the rapid pulse, the wide pulse pressure, the height of the basal metabolic rate, the increase in systolic blood pressure, and the extreme nervousness, he did not appear to be a very sick boy. This is in keeping with the observations of those who have seen more exophthalmic goiters in adolescents than I, that the crises and stormy periods so often seen in Graves' disease in adults are strikingly lacking in children. His rapid improvement under huge doses of Lugol's solution is also in line with the belief of those who advocate quick lugolization. His findings are in sharp contrast with those of the little girl in Case 2. I have never had a severe case of toxic diffuse goiter who had a smoother convalesence.

Case 5. Miss V. S., 15, was seen by her family doctor two years before because of moderate thyroid enlargement and malaise. She was not particularly nervous, had no eye signs and had lost no weight. He discovered that she ran a slight afternoon rise in temperature, 99° to 99.3° F. The chest was clinically negative and she had no cough. X-ray examination revealed a suggestive spot in the apex of the left lung, but was not absolutely positive. She was put to bed for six months during which time she improved and gained weight, but the slight afternoon temperature rise persisted. A consultant suggested undulant fever from his study of the X-ray plates. The agglutination tests were negative, but a guinea pig innoculation was positive. She was given specific treatment, but the temperature rise continued. Nervous symptoms appeared. A second consultant went over her carefully and said he could find nothing wrong, to forget about it, stop taking her temperature and let her alone. Four months ago she returned to her family physician, much more nervous, and for the first time he noticed definite eye signs in the form of a stare. Her basal metabolic rate was plus 30 per cent. She improved rapidly under iodine. The rate was checked after three weeks and was plus 13 per cent and for the first time she had no afternoon rise in temperature. She was referred to me for thyroidectomy.

Examination revealed a rather tall slender girl of 15 who had a definite stare. The thyroid was diffusely enlarged and seemed firmer than the usual soft goiter of adolescence. She was nervous, but hardly more so than would be expected of a young girl at this time of life. There was a very slight tremor. The pulse was consistently around 100 beats per minute. Blood pressure was not elevated. She was the largest and youngest of three sisters. One would hardly call her precociously developed, but the breasts and external genitalia were what one would expect in a seventeen or eighteen year old girl. Basal metatabolism was still plus 13 per cent.

Subtotal thyroidectomy was performed under cyclopropane anesthesia, about three-fourths of each lobe being removed. Convalesence was entirely uneventful, and she was dismissed from the hospital the sixth postoperative day. After a month she is entirely well and says she feels better than in years.

The pathological report is interesting: "Grossly there is nothing striking, nor is there anything suspicious on cut section other than simple colloid goiter. Microscopically the acini are filled with acidophilic colloid and lined with flattened epithelial cells. In a few acini are seen papillary projections extending into the colloid filled acini."

COMMENT. This patient must be considered as a border-line case and one presenting difficulties in diagnosis, certainly so until her family doctor, who knew her well, noticed the stare. There were no other signs suggesting hyperthyroidism except the moderate thyroid enlargement. The sharp decline in basal metabolism, the rapid general improvement and the diseappearance of the afternoon temperature rise under Lugol's solution are significant. It is my opinion that this was final proof, clinically, of the existing condition. The expert's diagnosis, or suggestion, of undulant fever is interesting. Foshay tells me that undulant fever can simulate hyperthyroidism as well as other conditions. I have had no experience with chronic undulant fever and know very little about it. But it would seem that it is a condition to be considered in making a differential diagnosis. The pathological report places this patient in the second group suggested by Hertzler, those colloid goiters showing papillary projections into the colloid distended acini. The microscopic pictures are perfectly typical of those he so well describes. It has long been recognized that incipient tuberculosis is a condition to be considered in making a differential diagnosis of hyperthyroidism. This girl may have had it, but it is doubtful. The result of this operation certainly justified the thyroidectomy, This case is presented as an ideal one showing the difficulty in making a differential diagnosis, especially an early one.

SUMMARY AND CONCLUSIONS

It would seem that hyperthyroidism in children during puberty and adolescence presents somewhat different problems from those in earlier childhood and adults. In all likelihood the endocrine adjustments peculiar to this time of life bringing about the more or less familiar transitions, are responsible for such differences.

Generally speaking, these patients are not as sick as adults frequently are; the nervousness is of a different type; the tremor is of less significance; eye signs are probably more significant; the basal metabolic determinations are less reliable, especially in doubtful cases; the physical findings may not hold to any fast rule—for example, the girl in Case 2 who had a slow pulse and normal blood pressure with

a basal metabolic rate of plus 35 per cent, marked nervousness, weight loss, and striking exophthalmos.

Constant findings in my small series were eye signs (either frank exophthalmos or a stare), nervousness, and advanced sexual development. In none of the cases would the sexual development be called exactly precocious, yet in all such development was two to four years in advance of what one would expect for children their age.

The diagnosis should not be difficult in the more advanced cases, but in the earlier and border-line cases, it may be extremely difficult. There are more conditions to be ruled out than in adults or younger children.

It is doubtful if toxic nodular goiter (fetal adenoma excluded) capable of clinical diagnosis occurs in patients so young.

The treatment, provided hyperthyroidism is proved, is surgical.

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CORRESPONDENCE

June 5, 1939.

Dr. Edgar A. Hines

Editor Journal of S. C. Medical Association
Seneca, S. C.

It has come to my knowledge that some question has been raised as to professional ethics in the advertisement I ran in last Wednesday's State for The Myrtle Beach News, in which a statement of Dr. Jennings and his photograph appeared. If there was anything unethical about it, I am solely to blame. Dr. Jennings gave me this statement to be used along with those of other health officials in a large advertisement to appear in some of the daily papers, explaining the infantile paralysis situation at Myrtle Beach. This plan fell through for the reason that it was impossible to contact some of these health officials. Later I decided to run an advertisement in The State's special Beach section and to use the statement of Dr. Jennings. I did this in perfect innocence, having no idea that anyone would consider it unethical. It was certainly not my intention to embarrass Dr. Jennings in any way. He and I have been friends of too long standing. I know that Dr. Jennings would be the last physician in the state to do anything unethical, and I would be the last person in the state to do him an injury.

I should like to say that, while I do not feel that I was violating a confidence and the matter of professional ethics did not occur to me, Dr. Jennings did not know that this advertisement would appear as it did nor that his picture would be used with it. Nor did anyone at Myrtle Beach know anything about it. I and I alone am responsible and am perfectly willing to assume that responsibility.

I hope this will set the matter straight in the minds of those who are so little acquainted with Dr. Jennings as to imagine that he could be guilty of anything unethical.

W. G. Hazel,

Publisher, The Myrtle Beach News

PRESIDENT'S MESSAGE

Douglas Jennings, M. D., Bennettsville, S. C.

When the medical profession is assailed from both within and without our ranks by government officials, lesser members of the "brain trust", editors, laymen and even in some cases by physicians themselves; when the public is more or less constantly being told in one way or another of the inadequacy of the medical care which they receive; when legislation actuated by political motives rather than public health is being rushed through, it would seem that organized medicine has a great and wonderful opportunity at this time (right now) to control its own destiny and to firmly entrench itself for the fight which is not coming but which is here. In many other states the effort is being made to arouse public opinion and to so fight the Wagner bill or the national health bill-"so called"-but we here in South Carolina are doing little to defend ourselves. Our answer to those who are advocating governmental control of medicine must be an aroused profession, thoroughly organized, providing the public with the facts and the analysis of the import of the government's program which they would otherwise not get; for an informed nationwide, intelligent public opinion can and will control this menace.

As for organization, the South Carolina Medical Association has made great strides in the past few years more particularly in the past year during Doctor Des Portes' administration, in bringing into organized medicine many of those heretofore unaffiliated and therefore uninterested. There yet remains some several hundred doctors in South Carolina who are not members. Since it seems that we cannot bring them in by persuasion, we must make things so interesting that they will be drawn in.

The answer to charges of inadequacy of medical care lies in the willingness and the ambition to learn more about medicine, to

Read before the meeting of the officers of the State Medical Association, officers of County and District Medical Societies and committee members of the State Medical Association, Columbia, S. C., June 12, 1939.

teach more about medicine and to practice better medicine. We must be constantly seeking to improve ourselves in scientific knowledge and developments and passing this information out to our less fortunate brothers. The medical society is the medium through which this must be done. Some of our larger organizations, notably the Columbia, Greenville, and the Charleston societies and the Piedmont Post-graduate Clinical Assembly, are showing the way. Some provisions must be found for extending this good work into the smaller counties and districts.

When first class adequately trained young men are graduated into the profession of South Carolina; when the older men as a whole are organized and continually striving to better themselves in the art and science of medical practice and when the public is thoroughly informed of what we are doing and can do and will do for their welfare we shall cease to be criticised and will hear no more charges of inadequacy of medical care.

No plan for providing adequate medical care in South Carolina can omit the state owned medical college upon which the commonwealth must depend for her physicians. We must continue to work unceasingly, not sporadically, for adequate annual state support of that institution. Thus will medical education be improved.

The third point in my suggested program is that which is referred to as a "new" activity. When the people of South Carolina are informed of what we are doing and want to do for their welfare and benefit it will beget their understanding and sympathetic cooperation rather than criticism of the medical profession. Then too, an informed public will be a great stimulus to doctors to keep up affiliation with organized medicine. The light of intelligence will ultimately weed out the undesirables. Inactive and unaffiliated doctors are an obligation on the rest of the medical profession. The lives and the health of the people are dependent upon the physician, whether he be competent or not,

and it is up to us to make him competent or to limit his activities.

We can best protect ourselves and the public from the incompetent physician by a carefully executed plan of ethical publicity. Through such publicity we can lead the public to the ethical and competent doctor; we can inform them of public health, disease prevention, how to live longer of cancer, syphilis and in maternal and infant welfare; and last but by no means least, we can let the public know of our attitude, even bring about a realization and an appreciation of our attitude toward state or socialized medicine.

The program then of which you have heard

much and probably read some in the public press consists principally of:

- 1. A first class medical school, adequately supported by the state, training the highest type of physicians for practice in South Carolina.
- 2. A live medical profession, continually striving to improve itself in the art and science of medicine and translating new developments and scientific advances into the health and well being of the people.
- 3. A public thoroughly informed on our plans and purposes and of what the medical profession is doing and will do, with their cooperation, to improve medical care in South Carolina.

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THE JOURNAL

OF THE

South Carolina Medical Association

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IULY. 1939			

MEETING OF COUNTY SOCIETY OFFICERS WITH STATE COMMITTEES A GREAT SUCCESS

On June 12 at Columbia pursuant to the call of President Douglas Jennings there was an assemblage of the officers of the State Medical Association together with officers of county and district medical societies and members of the committees of the State Medical Association to consider a unified program of organized medicine suggested by the President. Approximately one hundred physicians responded to this call and Dr. Jennings submitted his recommendations as outlined elsewhere in this issue of the Journal. The meeting was a most enthusiastic one and there was a feeling expressed by a number of speakers that a new day had dawned in certain phases of the relationship of the members of the South Carolina Medical Association to the public.

Among the speakers who voiced this feeling were Dr. Robert Wilson, Dean of the Medical College; Dr. Kenneth Lynch, past President of the Association; Dr. Robert Wilson, Jr., newly appointed Chairman of the Committee on Scientific Work; Dr. William Weston, Jr.; Dr. Walter Vest, President of the Southern Medical Association and the Secretary-Editor of the State Medical Association.

In due time the entire list of State commit-

tees will be published but it is important that the names of the Chairmen be submitted for the information of the entire profession of the state. All of these men desire to keep in close touch with the membership as the enlarged program of the Association begins to function.

Committee on Scientific Work, Dr. Robert Wilson, Jr., Charleston

Committee on Public Policy and Legislation, Dr. J. McMahan Davis, Columbia

Committee on Public Health and Instruction, Dr. H. Grady Callison, Columbia

Committee on Medical Economics, Dr. R. G. Doughty, Columbia

Committee on Necrology, Dr. C. W. Morrison, Lancaster

Committee on Maternal Welfare, Dr. Robt. E. Seibels, Columbia

Committee on Control of Cancer, Dr. F. E. Kredel, Charleston

Committee on Study and Control of Syphilis, Dr. J. E. Boone, Columbia

Committee on Public Relations, Dr. William Weston, Jr., Columbia

Committee on Historical Medicine, Dr. J. I. Waring, Charleston

Committee on Medical College of the State of S. C., Dr. L. M. Stokes, Walterboro

South Carolina Cancer Commission, Dr. K. M. Lynch, Charleston

Committee to represent State Medical Association at 150th anniversary of the Medical Society of South Carolina (Charleston County), Dr. William Weston, Sr., Columbia.

ANNOUNCEMENT OF PROGRAM PIEDMONT POST GRADUATE CLINICAL ASSEMBLY, ANDERSON,

s. c., september 19, 20, 21

One of the significant developments all over the country is that of post graduate medical education, particularly of the extension type of teaching where the professors of medical schools are brought direct to the busy doctor. For some years this has been the objective of the clinical assembly at Anderson and is now listed by the American Medical Association as such.

The prospectus for this year's Assembly presents some extraordinary features. First of all the faculty has been considerably enlarged and additional distinguished professors added thereto. Each year one or more special themes have been stressed and at the coming Assembly cancer will be one of the important themes to be presented.

As in the past the Southeastern Surgical Congress will cooperate with the Assembly by putting on the surgical part of the program but many other branches of medicine will be included in order that the general practitioner as well as the specialist may be amply repaid for any trouble involved in attending the Assembly. Some of the invited guests on the surgical program are as follows: Dr. Hayes Elmer Martin, Surgeon at the Memorial Hospital, New York; Dr. J. Shelton Horsley, Surgeon in Chief, St. Elizabeth's Hospital, Richmond, Virginia; Dr. LeGrand Guerry, Surgeon, Columbia, S. C.

For the first time the Assembly will undertake an extensive presentation by pathologists of outstanding reputation throughout the country as follows:

Dr. Roy K. Kracke, Professor of Pathology, Emory University, Atlanta, Georgia.

Dr. Kenneth M. Lynch, Professor of Pathology, Medical College of the State of South Carolina, Charleston, S. C.

Dr. T. R. W. Wilson, Pathologist Greenville General Hospital, Greenville, S. C.

Dr. E. R. Pund, Professor of Pathology, University of Georgia, School of Medicine, Augusta, Georgia.

Dr. E. B. Saye, Pathologist, Spartanburg General Hospital, Spartanburg, S. C.

The Assembly has always given special con-

sideration to internal medicine, pediatrics and public health. The invited guest speakers in these branches are as follows: Dr. W. Lloyd Aycock, Assistant Professor of Preventive Medicine and Hygiene, Harvard Medical School, Boston, Massachusetts; Dr. V. P. Sydenstricker, University Hospital, Professor of Medicine, Augusta, Georgia; Dr. Robert Wilson, Jr., Associate Professor of Medicine, Medical College of the State of South Carolina, Charleston; Dr. James M. Northington, Editor of Southern Medicine and Surgery, Charlotte, N. C.; and Dr. Angus Murdoch McBryde, Assistant Professor of Pediatrics, Duke Hospital, Durham, North Carolina.

The above advance information is presented now in order that the members of the Association may make their plans accordingly. The time selected has been most fortunate, just at the close of the vacation season and just before the medical schools open and at a time when the climatic conditions in the Piedmont are usually ideal.

DR. LEGRAND GUERRY HONORED

A bronze bust of Dr. Guerry was presented to the Columbia Hospital by a group of his friends on the evening of June 1. Presentation was made by Dr. Reed Smith of the University of South Carolina who also made the address. Mr. W. Smedes Hendley, Chairman of the Board of Trustees of the hospital accepted the bust. Two of Dr. Guerry's grandsons, LeGrand Guerry, 3rd, of Columbia and Walter Newton, Jr., of Bennettsville had the honor of unveiling the bronze bust during the presentation. Prior to this the sculptor, Ivan Tregor, made a brief talk. Mr. C. Y. Reamer as Chairman of the Committee in charge of arrangements extended an invitation to all of the doctor's friends, and doctors and nurses to attend the exercises.

As was brought out at the exercises of the unveiling of the bust Dr. Guerry has had innumerable honors conferred upon him throughout his long and successful career but when the story of appendicitis is concluded Dr. Guerry's name will stand high on the roll of pioneers in connection therewith. He has contributed largely to the spectacular progress

of American surgery along many lines but we wish to recall here that his Presidential Address delivered before the South Carolina Medical Association at Anderson, April 15, 1908, on the Great Black Plague was also a pioneer effort, for his recommendations embodies many of the plans for the control of Syphilis in which the entire nation is engaged at the present time.

American medicine has been greatly enriched by the contributions of Columbia physicians and surgeons and Dr. LeGrand Guerry stands easily as one of the most brilliant of these men. Many great surgeons fail to perpetuate their achievements through the training of young men to carry on after the master's career has ended but not so with Dr. Guerry for one of his splendid contributions is along this very line.

Columbia has had a phenomenal growth as a medical and surgical center with the ever increasing facilities for hospitalization. Dr. Guerry's skill and influence have been important factors in this enviable development. It is most fortunate that the good doctor at the height of his fame is in good health and with many more years of usefulness and happiness in the offing.

ADDITIONAL REPORT ON POLIOMYELITIS IN CHARLESTON

J. I. Waring, M. D.,
Assistant Editor, Journal S. C. Medical Association, Assistant Professor of Pediatrics,
Medical College State of S. C.,
Charleston, S. C.

Since the last issue of the Journal, there has been a decided decrease in the amount of poliomyelitis in and about Charleston. Up to June 21 there had been only 23 new cases reported, 11 of these in the city and 12 in the county, as compared with 26 city and 30 county cases for the month of May. Except for two or three cases, all of the county cases have occurred within about ten miles of the city, and especially in two localities on James Island. Health authorities consider that the trend is definitely toward improvement in the state of the epidemic, and have relaxed some of the restrictions imposed on the public.

In the way of treatment no positive statement can be made as to the value of any drug or method. One physician who has used Neoprontosil in a number of cases strongly suspected of being poliomyelitis, but without positive substantiation, feels that the drug may have distinct value in the way of prevention of the development of the full course of the disease and of prevention of paralysis. In the hospital sulfapyridine, sulfanilamide, and other drugs have been used, but there is still doubt as to their value.

Since the last report, several cases have been definitely benefitted by the respirator. One colored boy, aged 10 years, developed paralysis of all extremities, diaphragm, and lower intercostals. Breath sounds were scarcely audible. When put in the respirator his improvement was immediate. He has now been in the apparatus for 15 days, and shows some return of function of the muscles of respiration. He can breathe without help from the respirator for 15 or 20 minutes, but usually develops headache and has to return to the machine quickly.

A white girl, aged 11 years, developed paralysis of the muscles of respiration at Barnwell, and was brought to Charleston safely by virtue of the administration of artificial respiration during the whole trip. She was immediately put into a respirator, with prompt relief. However, after 17 days, she is unable to breathe at all without the help of the machine, but is comfortable, with good color and pulse.

Whatever may be the final outcome in these cases, they have both been immensely relieved and made comfortable by the respirator. Other cases less far advanced in respiratory paralysis have also been much relieved, and it seems likely that patients who are given early benefit of the respirator, before paralysis has progressed far, will stand a much better chance of gradual recovery of function and eventual independence of the apparatus. When cardiac irregularity has developed, no benefit has been derived from the respirator.

SURGERY

WM. H. PRIOLEAU, M.D., F.A.C.S., CHARLESTON, S. C.

"ALLERGIC MANIFESTATIONS WITH INJECTION TREATMENT OF VARICOSE VEINS"

The injection of sclerosing solutions has a definite place in the treatment of varicose veins. Deaths resulting from it are very rare. With proper technic embolism, sloughing, and fulminating phlebitis can be reduced to a minimum. However the complication of allergic reactions is little thought of and accordingly not properly guarded against. Dr. Harold Shelley calls attention to this hazard and reports a death as a result of it, (J. A. M. A. 112:1793 May '39).

Sugar and sodium chloride solutions may contain impurities and in this respect are not free from this danger. However reactions from their use should be rare and of minor degree. Salicylism and even urticaria may follow the use of sodium salicylate for injecting varicose veins. Quinine, when used as a solution of quinine and urethrane, not infrequently is followed by urticaria or dermatitis; in a patient sensitive to quinine a generalized urticaria, associated with severe asthma, may develop.

Sodium morrhuate is one of the most commonly used preparations. As it is impossible

to remove all nitrogenous materials contained in cold liver oil, it is not surprising that it may cause a variety of allergic reactions. Among these are erythematous or urticarial manifestations of the skin, gastrointestinal distturbances with abdominal pain and diarrhoea appearing shortly after injection, and collapse with cyanosis and loss of consciousness. The author adds the condition of irritation and inflammation occurring over veins previously injected.

Sensitivity may develop during treatment, however such reactions are more likely when an interval of time has elapsed between series of injections. There is no satisfactory way of being certain of preventing these allergic reactions. Intradermal tests are of value, but do not form a complete safeguard. In injections of the veins a small amount of the solution should be given at first, and the dose gradually increased. On resumption of treatment started with sodium morrhuate, it may be well to change solutions.

In the death reported by the author the material injected was monoethanolamine oleate. This is a synthesized chemical and for this reason the possibility of its containing nitrogenous material was theoretically eliminated.

OBSTETRICS AND GYNECOLOGY

J. D. GUESS. M.D., GREENVILLE, S. C.

THE A. M. A. CONVENTION

The annual exhibition of the American Medical Association was as colossal as ever. To say that it was colossal is no exaggeration of fact, for it was big in every way—attendance, scientific exhibits, commercial exhibits, scientific assemblies, business transacted by the house of delegates, social functions, and related activities.

No one could begin to take it all in. One could have well spent all his time in either the

scientific exhibition hall or in that of the commercial exhibits. Those who sat in the house of delegates were in almost continuous session. The members of the various American Specialization Boards had their time fully occupied with the business of their respective boards, and the many candidates for certification by one or the other of these boards were occupied first with their examinations and after these were over they found themselves in many instances drained and exhausted mentally and

emotionally, so that they could not feel interest in any thing until after recuperation.

The editor was particularly interested in the work of the American Board of Obstetrics and Gynecology, and in the sessions of the section on obstetrics and gynecology.

Examinations for certification as specialists in obstetrics and gynecology began on Saturday preceding the opening of the house of delegates, and they were not completed until the following Tuesday night. Two hundred and fifty-five applicants had been invited to take the examinations. Of these only nine per cent failed, a lower incidence of failures than had ever occurred before in the history of the Board. Thirty-three states and several Canadian provinces were represented. There were several women, but the majority of the applicants were men who had only recently finished their training. Thirteen per cent of those who had limited their practices for ten or more years failed. This is an indication of the kind and severity of the examinations and the attitude of the Board toward the necessity for adequate training before specialization. It is hard on those who fail to receive certification, but it makes certification worth something to those who receive it, and makes of it a valuable index of ability when doctor or patient is seeking a qualified man in territory where he has had no opportunity to know personally the various men available.

The sessions of the section on obstetrics and gynecology were well attended, and the program was well arranged and highly instructive. The influence of hypo and hyperthroidism on pregnancy was discussed in the papers. The effects upon the infant of various analgesics frequently used during labor was discussed in two papers. The important subject of treatment of uterine retrodisplacements was ably presented. Post-operative care of the bladder was another important subject considered.

These were the papers which the editor found most interesting, but there were a number of other papers which should be carefully read when they appear in the Journal.

In the sectional scientific exhibits, the most interesting thing to the writer was a beautifully conceived and skillfully executed motion picture study of the production, physiological effect upon the ovaries of several laboratory animals and upon those of woman, and finally the clinical application of blood serum from pregnant mares. This serum contains prolan and is a chorionic hormone, similar to A. P. L. substance (Antuitrin-S, Amniotin, et cetera). It has, however, several important differences. It is not excreted by the kidneys and so does not appear in the urine. It does produce follicle growth, ovulation, and corpus luteum formation in woman as well as in laboratory animals.

When the safety of this substance has been demonstrated, it would seem that it will be a potent agent in treating sterility due to failure of ovulation or aspermatorrhea (it stimulates spermatogenesis in the male) and in controlling menometrorrhagia due to deficiency of progestine.

PUBLIC HEALTH

BY DR. B. F. WYMAN, M.D., COLUMBIA, S. C. DIRECTOR OF RURAL SANITATION, STATE BOARD OF HEALTH

The following article, prepared by Doctors George E. Bennett, Associate Professor of Orthopedic Surgery, and Robert W. Johnson, Jr., Associate in Orthopedic Surgery, of the Johns Hopkins University School of Medicine, Baltimore, Maryland, is the introduction to Public Health Bulletin No. 242, entitled "Care During the Recovery Period from Paralytic Poliomyelitis," by Doctors Henry O. and Florence B. Kendall, of the Children's Hospital School, Baltimore, Maryland.

"The disease attacks the nerve cells in the anterior horn region of the spinal cord where are located the large motor nerve cells innervating the distant skeletal muscles of trunk and extremities. These cells and these cells alone of the body are seriously attacked and destroyed by the virus. The sensory nerve cells are never seriously affected by the disease, so there is no loss of sensation accompanying the loss of motor nerve function. Any sensory symptoms which may be present in the acute stage are always transitory and clear up rapidly. The anterior horn cells (motor) in the spinal cord are affected by the virus in one of four ways, as shown by microscopic examination of the spinal cord in experimental animals or in children who have died of the disease.

First.—The nerve cells may be pressed upon and temporarily thrown out of activity by the transitory inflammatory swelling of the tissues about them.

Second.—The nerve cells may be subjected to a damaging local anemia due to the blockage of the very minute vessels which bring in their blood supply, or to small hemorrhages occurring in the surrounding tissue.

Third.—The nerve cells may be directly attacked by the virus and injured but not destroyed. An injured nerve cell recovers slowly and during the acute stage has generally suffered the degeneration of its long, far-flung nerve filament or axis cylinder which has to grow again from the nerve cell out to its termination in the muscle, a distance of sometimes as much as a meter.

Fourth.—The nerve cell may be attacked and killed, undergoing complete disintegration. Since nerve cells cannot reproduce or replace one another in the way less specialized tissue can, such cell death means permanent paralysis.

In the first three types of lesions recovery of the motor nerve is to be expected; in the first group quite rapidly (2-60 days); in the second more slowly (60-360 days); in the third very slowly, but within a probable outside limit of 3-5 years, depending on the size and age of the patient.

What is the practical significance of this pathological study? How can it be applied to our clinical cases where obviously we cannot remove the cord for microscopic study? Clinically our only test of these motor nerve cells is whether they can stimulate the muscle to con-Therefore, we can form no accurate conclusion from the muscle paralysis as to how serious is the damage that has been done in the cord, and whether this or that nest of cells governing the activty of this or that muscle is only damaged and will recover or has been killed. Regarding this dreadful disease there are only two good things that can be said: First, there is no danger of relapse of second attack once the acute stage is over. Second, the paralysis is at its maximum at the end of the acute attack and some recovery, be it great or little, is to be expected.

Since we cannot tell which cells will recover we must hope that all will and take the necessary measures to assure as effective and widespread recovery as possible. The damaged nerve cells are in the cord, inaccessible to any form of treatment, their recovery being based on the character and degree of injury they have sustained. At this point appears the importance of the muscle, a tissue in no way directly attacked by the virus, but rendered as useless by its loss of innervation as an automobile with its battery stolen. The muscle undergoes certain degenerative changes, the most important of which is its loss of "tone" or state of tension, so that instead of being

taut and elastic it is relaxed, easily stretched and sagging like a hammock between its points of origin and insertion. The muscle fibers atrophy and degenerate, the blood supply diminishes rapidly as the muscle no longer works, and gradual replacement of the contractile muscle fibers by fibrous and fatty tis-If the nerve cells recover, resue ensues. generate their filaments, and again begin sending stimuli to a paralyzed and atrophied muscle, the response the muscle makes will be directly proportionate to the protection and care it has been given during the period of paralysis. This has been so frequently demonstrated by Mr. Kendall and his associates in the physiotherapy department at the Children's Hospital School that to us it is beyond peradventure. Charles Fayette Taylor and Sir Robert Jones were the first to emphasize rest and protection of paralyzed muscles, and Dr. Macnamara with her experience in Australian epidemics further de-

veloped these principles, but really they seem generally to have found more casual acceptance and lip service than rigid and zealous adherence. Like all really important scientific procedures, the after-care of polio cases is not easy, but is a process long and full of detail and unremitting care.

We cannot make the nerve cells grow, but we can and do maintain receptive, potentially sound muscles for them to grow out into, and we also conserve and develop the power as it returns gradually to the limbs that have been kept in the best possible physical shape to profit by nature's own recovery.

Like asepsis in an operating room, this aftercare is the result of experience, intelligent planning, meticulous attention to details, and adherence to basic ideals by every member of the team which handles the body and thereby the future of the crippled child."

WOMAN'S AUXILIARY

SOUTH CAROLINA MEDICAL ASSOCIATION

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PICKENS COUNTY AUXILIARY

The Pickens County Medical Auxiliary held its June meeting at the home of Mrs. J. H.

Cutchins. Mrs. J. W. Kitchen, President, called the meeting to order and welcomed our visitors, Mrs. C. P. Corn and Mrs. W. P. Barton, both of Greenville. Mrs. J. L. Valley led the devotional, reading from Matthews 6:5-15, verses following it with prayer.

Roll call, minutes and reports were heard from committee chairmen. The Auxiliary voted to sell extract again this year to help increase treasury funds. The Creed was repeated in unison.

Mrs. W. B. Furman, introduced Mrs. C. P. Corn, President-elect of the Southern Medical Auxiliary. In her charming way, Mrs. Corn recognized our Auxiliary and the members who held state offices. She gave a very interesting report of the American Medical Auxiliary at St. Leuis, Mo., where she served as delegate from the South Carolina Auxiliary. Mrs. Corn asked us to make plans to attend the Southern Medical Convention in November at Memphis, Tennessee. Mrs. Cutchins served her guests a refreshing iced course.

GREENVILLE COUNTY AUXILIARY

For the year of 1939 Mrs. Everette B. Poole has been elected to serve as President and Mrs. M. Nachman, President-elect for 1940.

Doctor's Day was observed with a program over Radio Station W F B C. The speakers were: Mrs. C. C. Ariail, State President, Mrs. Everette B. Poole, and Mrs. Charles P. Corn. On May 5th the Auxiliary entertained with a bridge tournament at the Poinsett Hotel with a hundred tables at play for the benefit of a Student Loan Fund.

A committe was appointed by the President to serve as hostesses at all the hospitals in the city on Hospital Day.

Our June meeting, the first meeting of the year, was presided over by the new president with a splendid attendance. The paper of the morning was a most interesting one. Mrs. J. G. Murray discussed "The Doctor in a Changing World." Mrs. Charles P. Corn, President-elect to the Auxiliary of the Southern Medical Association gave a splendid report on the National Meeting in St. Louis at which she served as a delegate from South Carolina.

RIDGE MEDICAL AUXILIARY

The Ridge Medical Auxiliary met with Mrs. W. P. Timmerman, Monday evening. The meeting opened with all repeating the Lord's Prayer. Mrs. Timmerman, the President, presided. Mrs. E. C. Ridgell read a paper on Socialized Medicine. Miss Guendolyn Hoover rendered a beautiful piano solo. A poem, "In Exchange For Your Son," was impressively read. Mrs. W. T. Gibson was welcomed as a new member.

The hostess assisted by her daughter, Mrs. H. K. Dickert, served delicious refreshments.

The Ridge Auxiliary regrets the passing of Mrs. D. M. Crosson who was a member when the Auxiliary was first organized.

LAURENS MEDICAL AUXILIARY

The Laurens County Medical Auxiliary, which was organized during the month of March, with Mrs. W. L. Pressly of Due West, Councilor of the District at that time, serving

as Chairman, held its May meeting, Monday, May 22, at the home of Mrs. D. O. Rhame, Jr., Clinton, S. C.

A delightful part of the afternoon was the participation in the meeting of several guests from the Greenville County Auxiliary. After the business session there followed a program given by Mrs. R. M. Pollitzer, of Greenville, on "Medical Men in Literature, Past and Contemporary."

A new phase of the work of medical auxiliaries was introduced by Mrs. C. C. Ariail of Greenville, when she read the brief biographies of two former Greenville County physicians. The routine followed by Greenville County's historian, Mrs. J. H. Powe, in gathering the data for these biographies was discussed by Mrs. L. H. McCalla and Mrs. J. G. Murray of Greenville. At an early date the Laurens Auxiliary will begin gathering biographies of the deceased members of the Laurens County Medical profession. These biographies have an interesting part in the history of South Carolina, a space in the State Library having been reserved for them.

At the conclusion of the program delicious refreshments of iced drinks, mints and cakes were served by the hostess, assisted by Mrs. George R. Blalock and Mrs. B. O. Whitten. It was announced that the summer meeting would be omitted, the first meeting of the fall session to be held the fourth Monday in September, with the time and place to be announced later.

Officers of the Auxiliary are as follows, Mrs. John Garrett Hart, President, Laurens, S. C.; Mrs. W. T. Martin, Vice President, Goldville, S. C.; and Mrs. D. O. Rhame, Secretary-Treasurer, Clinton, S. C.

OCONEE COUNTY MEDICAL AUXILIARY

The Woman's Auxiliary to the Oconee County Medical Society met with Mrs. B. F. Sloan as hostess, Friday afternoon, June 16, at her home in Walhalla.

Mrs. S. H. Ross, of Seneca, President, presided over the business meeting and welcomed two new members, Mrs. Rowland Zeigler and Miss Leola Hines both of Seneca.

Mrs. W. C. Marett, a member of the Auxiliary, who lives in Clearwater, Florida, during the winter was present.

Mrs. C. P. Corn of Greenville, Presidentelect of the Southern Medical Auxiliary, was introduced and gave a very interesting talk on the meeting of the Woman's Auxiliary to the American Medical Association held in St. Louis during the month of May which she attended. Mrs. J. E. Orr, of Seneca, who is Historian for the Woman's Auxiliary to the South Carolina Medical Association, gave a report on the State Convention held in Spartanburg within the last few weeks. Mrs. Orr was presented a check from the State Medical Auxiliary to the Oconee County Medical Auxiliary for the Jane Todd Memorial bed placed in the Oconee County Hospital.

The treasurer of the hospital fund reported that the local Auxiliary had given \$231 toward the furnishing of the Maternity ward in the Oconee County Hospital.

Mrs. Sloan, assisted by Miss Clare Sloan, served sandwiches, cookies, and punch. The next meeting will be held the second Monday in September.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

ISSUED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

An Advisory Committee on Tuberculosis of the Medical Society of New Jersey has drafted a statement of principles and standards regarding tuberculosis case-finding among pupils in public schools. This carefully drafted statement, representing the views of one organized body of physicians, should be helpful to all physicians as the practice of case-finding in schools is growing in popularity. Space prohibits reprinting the report in full—some passages have been abbreviated, others omitted.

CASE-FINDING IN PUBLIC SCHOOLS

1. QUESTION—How valid is the tuberculin test? May we assure parents that the positive or the negative reaction is absolutely correct?

ANSWER—The tuberculin test is one of the most reliable tests that we have for determining whether or not tubercle bacilli have at some time entered the body. If positive, it does not necessarily indicate the presence of tuberculosis, the degree of infection, nor the extent of damage done, if any.

For all practical purposes, exceptions to this statement may be ignored. They should not cause worry to parents.

2. QUESTION—Which grades should be tested? ANSWER—The ideal plan would be to test children of all grades and ages.

First Grade Pupils—In this group one is likely to find so small a number of infections as hardly to make the effort worth while on a very large scale. On the other hand, experience has shown that very young children with positive tuberculin reactions will serve as leads to a large number of open cases of tuberculosis that were active sources of infection.

Kindergarten—The same may be said of this group. High School—The high school age is receiving special attention for several reasons. First, because of the high morbidity and mortality rate known to exist between the ages of 15 and 25. Secondly, because in the average high school a large percentage of this important age group is available

under ideally-controlled conditions. More cases of tuberculous infections are likely to be found in this age than in the lower grades.

- 3. QUESTION—When is re-testing advisable? ANSWER—All tuberculin-negative students should be re-tested at least once a year. All tuberculin-positive students should be re-X-rayed at least once a year, unless something abnormal is found, when the frequency of re-X-raying will depend upon the particular circumstances in each case.
- 4. QUESTION—Is the Mantoux test so definitely superior to other tests that the question of choice may be ignored?

ANSWER—The Mantoux test is definitely superior to other tests because:

- 1. It is twice as sensitive as the scratch test of Von Pirquet.
 - 2. It is an exact quantitative test.
- 3. The response when positive is more definite, and more prompt than in all other tests.

However, as a second choice, especially in the face of objection to the "needle," the Patch test may be used. The following are the objections to the Patch test:

- 1. It must be kept dry.
- 2. It must not be interferred with by the child.
- 3. Frequently when examined at the end of 48 hours, it may be negative, and require four days for a reading.
- 4. Under the best of circumstances it is at least five per cent less reliable than the Mantoux test.

- 5. The greater cost of each test would also be come a financial problem if planned for a large number.
- 5. QUESTION—What is the significance of different degrees of reaction?

ANSWER—Different degrees of reaction have no significance beyond the fact that they indicate different degrees of sensitivity. This has no bearing upon the question of the amount of infection or disease, and need not concern school administrators or even school physicians. It is better not to confuse the minds of parents with any attempts to interpret degrees of reaction.

6. QUESTION—Should all positive reactors be X-rayed? Are there indications to warrant X-raying of negative reactors?

ANSWER—All positive reactors should, without exception, be X-rayed.

With reference to negative reactors, an X-ray is not necessary to exclude tuberculosis; but it is frequently advisable for certain special reasons, such as malnutrition, suspicion of heart disease, chest deformity, or recent non-tuberculous lung infections such as pneumonia, or the presence of symptoms of chronic bronchitis or pulmonary disease of non-tuberculous character.

Question 7 on the accuracy of the paper X-ray film, is answered by defining the limitations of paper film, appraising its advantages and stating that paper films are quite satisfactory in the "sifting" process or screening out of abnormalities.

8. QUESTION—Is the celluloid film infallible? ANSWER—No. There are lesions in the lung so small and so translucent to the ray that they may not be demonstrable in *any* films.

9. QUESTION—Assuming a positive reaction to the Mantoux, and a negative reading of a paper film, what should be told parents?

ANSWER—A positive Mantoux reaction, by itself, does not indicate that a person has tuberculosis. "If the tuberculin test is positive (red and swollen), it means only that tuberculosis germs have at some time entered the body. It does not tell how many there are, or if any damage has been done. It should not cause worry to parents.

"If the test is positive, the child's chest should be X-rayed to be certain that no harm is being done in the lungs. An X-ray examination should also be made of every member of the household to learn if the child is being exposed to an open case of tuberculosis. Frequently this may reveal other cases of tuberculosis before the victim is at all aware of the disease. If no one in the family has the disease, search should be made among the child's

playmates or others with whom he comes in close contact. It is perfectly safe for a child with a positive reaction to mingle with other children,—for unless there are tubercle bacilli in his sputum, he cannot pass them to others. Tuberculosis often exists in a concealed form in unsuspecting persons, and it is important to make the discovery in order to prevent further spread of the disease."

The parents should also be advised that the tuberculin-positive student should be X-rayed regularly at least once a year so as to detect any evidence of reinfection as early as possible. If the tuberculin test is negative, no X-rays are necessary until a subsequent tuberculin test proves to be positive.

10. QUESTION—Will you outline briefly the follow-up procedure for the average school district?

ANSWER—After a tuberculosis survey, the parents are advised in a general way as to the results, and instructed to see their family physician for further explanation of the same.

Parents receiving reports to the effect that the Mantoux test was negative are advised of the importance of having the children re-tested annually by their own doctor, as long as they are negative.

In the case of the child who had a positive Mantoux with a negative X-ray, the parents are advised to have the child X-rayed, at least once a year theréafter through their own physician. They are also advised to have all other members of the house-hold X-rayed, and all children under fifteen Mantoux tested.

In the case of those children in whom the X-ray showed some abnormality, the parents are particuuarly urged to take the report of the findings to their family physician at once. He is to be further informed of the desirability of communicating personally with those conducting the survey, who should endeavor to cooperate with him to the fullest extent on behalf of his patient. For those who cannot afford private service, the facilities of the tuberculosis clinics should be made available.

With reference to the schools, plans are formualted for continuing these surveys so as to test all new admissions each Spring, as well as those previously tuberculin-negative.

It is advised that no child should be excluded from school until the X-ray reveals findings that would warrant it and no type of active case, communicable or not, should remain in school—all active cases require treatment.

Tuberculosis Cace-Finding in Public Schools, A. E. Jaffin, M. D., The Journal of the Medical Society of N. J., Vol. XXXVI, No. 2, Feb., 1939.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. J. J. Ravenel January 20, 1939 ABSTRACT NO. 382 (51415)

Student Yeargin Presenting.

Admitted October 5, 1938; died October 7, 1938. History: The patient was a negro man of 67 years of age brought to the hospital in a semi-comatose condition. The informant stated that the patient had had difficulty in passing urine for some time; dribbling was a prominent feature. About one week before admission the patient developed a fever and became semi-comatose on the day before admission. No further details concerning the past history or present illness were obtainable.

Physical: T. 101.4°. P. 112. R. 26.

The patient was of the apparent stated age, semi-comatose, the skin was dehydrated and the mucous membranes pale. Pupils reacted to light and accommodation. The tongue was dry and coated. The neck was not remarkable. The chest was clear to percussion and auscultation. The heart was enlarged, the rate rapid, the rhythm regular and no murmurs were heard. The radials were thickened and tortuous. B. P. 120/60. Examination of the abdomen revealed the bladder to be distended to a level within one inch of the umbilicus. There was dribbling of urine from the external urethral meatus. The prostate was not enlarged. Extremities were not remarkable. Reflexes were physiological.

Laboratory:	
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Blood	10-5-38	10-6-38
Hb.	65%	65 %
RBC		3,600.000
WBC	12,400	11,800
Polys	84%	89 %
Lymphs	14%	9%
L. Monos.	2%	2%
Blood Cemistry:		

10-6-38

Urea N. 115 mgs % Creat.

10-7-38

Urea N. 94 mgs% Creat. 3.6 mg% Serology Kolmer—Negative

Kline—negative

Course: A filiform catheter was placed and decompression of the bladder accomplished. The patient's general condition did not improve with supportive treatment. Temperature began to rise after admission and reached 104.2° shortly before death on 10-7-38.

Dr. J. J. Ravenel: (presiding) Mr. Allen, will you open the discussion?

Student Allen: This man presented quite definite localizing symptoms on admission, complaining of difficulty of urination, dribbling, and distension of the bladder. He ran a febrile course and had a leucocytosis, all pointing to urinary obstruction with some infection. A hypertrophy of the middle lobe of the prostate will give rise to a retention and a secondary hydro and possible pyonephrosis. This would also account for his urea nitrogen retention. His past history throws no light on a urethral infection; and although dribbling was present, it is unlikely that he had any recent infection. A prostatic secondary infection might give rise to considerable enlargement of the gland with secondary urinary retention. I would also consider the possibility of a tumor of the bladder itself, such as a villus papilloma or carcinoma, encroaching upon the trigone and blocking the urinary outflow. No blood was found in the urine, however, and the most likely diagnosis seems to me to be a hypertrophy of the medial prostatic lobe. Such an enlargement might also be present without appreciable changes being found in rectal examination.

Dr. Ravenel: Mr. Finger, do you agree?

Student Finger: Yes, I believe this patient had some obstruction below the trigone, most likely caused by an adenomatous hypertrophy of the medial prostatic lobe. A resulting hydronephrosis would account for his uremic condition.

Dr. Ravenel: How would you account for the rise in temperature to 104° ?

Student Finger: He may have acquired a secondary infection from instrumentation while attempting to decompress the bladder.

Dr. Ravenel: Mr. Herring, do you agree with this explanation of the rise in temperature?

Student Herring: Yes, I think it is not uncommon for a patient to have a chill and sudden rise in temperature following instrumentation of the posterior urethra. There is probably absorption of bacteria at this point from trauma or laceration of the urethral mucosa permitting absorption into the blood stream. I believe the so called urethral chills are most apt to occur several hours after the instrumentation.

Dr. Ravenel: How do you account for the slow dribbling of urine following catheterization?

Student Finger: If the bladder had been distended to a marked degree over a long period of time, it is possible that there is some loss of tonus in the musculature which impaired contraction and efficient emptying.

Dr. Ravenel: Mr. Moore, how would you distinguish between a bladder distended by obstruction at its outlet and a cord bladder distended by nerve injury?

Student Moore: If the bladder retention were due to nerve injury it seems a catheter would pass the posterior urethra and prostate without meeting any obstruction.

Dr. Ravenel: How do you explain the blood chemistry?

Student Moore: I think this could all be explained by an obstruction preventing proper drainage from the ureters and resulting in hydronephrosis.

Dr. Ravenel: Mr. Cantey, when a retention catheter is inserted and patient given supportative treatment, would the patient have difficulty in emptying the bladder if retention were due to nerve injury?

Student Cantey: I don't think such a condition would produce difficulty in complete emptying of the bladder, providing it had regained a sufficient degree of tonus. It is possible that too rapid decompression of an over distended bladder by catheter may cause further complications setting up a circulatory disturbance due to the sudden decrease in pressure.

Dr. Ravenel: Tumor of bladder was mentioned as a possibility. Is this right?

Student Cantey: A tumor of the bladder causing obstruction would have to be located low in the trigone, and any infiltration to the floor might be made out on rectal examination.

Dr. Ravenel: Could a bladder stone give rise to these symptoms?

Student Cantey: This is possible. However, a stone is more likely to cause an intermittent hematuria and we have no history of this.

Dr. Ravenel: The acute rise of temperature might

be the result of instrumentation with temporary absorption of bacteria in the blood stream. Infection was certainly present, and it seems to me most likely to be associated with some ascending infection following an obstruction in the prostate. The possibility of stricture is to be considered but is more likely to occur in an earlier age group. I would first think of medial lobe hypertrophy. A bladder stone could produce these symptoms without bleeding, but obstruction would be intermittent. A stone in the urethra is possible but uncommon and would probably be detected at the time of instrumentation.

Dr. Kelley: Was anything made of the anemia and cardiac enlargement?

Dr. Ravenel: No, the patient was in less than 48 hours and in coma; so he was not worked up from that standpoint. However, there are numerous cardiovascular complications or renal diseases.

Dr. Lynch: This patient had an unusual type of obstructive lesion, a calculus lodged in the membranous portion of the urethra.

Calculi are uncommon in this location, and urinary calculi in general are uncommon in the Negro race. While there is some narrowing of the urethra at the site of the stone, I believe this secondary to an inflammatory reaction set up by the presence of this foreign body. The appearance of the stone suggests its origin elsewhere, probably in the kidney. The bladder is markedly dilated, its wall hypertrophied, and its mucosa showing a diffuse chronic inflammatory lesion. In addition, both kidneys show a widespread pyelonephritis with the formation of linear abscesses throughout the cortex and medulla. Death appears to be the result of renal failure occasioned by both the widespread infection and the result of back pressure.

MINUTES

MINUTES OF HOUSE OF DELEGATES

The House of Delegates of the South Carolina Medical Association assembled in the ballroom of the Cleveland Hotel, Spartanburg, South Carolina, on Tuesday, April 11, 1939, for its ninety-first annual meeting. The President of the Association, Dr. J. R. Des Portes, of Fort Mill, presided and called the meeting to order at ten-thirty o'clock A. M.

At the request of President Des Portes the Secretary, Dr. E. A. Hines, presented a distinguished guest, Dr. Arthur T. McCormack, of Louisville, Kentucky, State Commissioner of Health of Kentucky, and President of the Southern Medical Association. Dr. McCormack spoke as follows:

ADDRESS

Arthur T. McCormack, M. D.

State Health Commissioner of Kentucky, President, Southern Medical Association, Louisville, Ky.

"Mr. President and gentlemen:

I wish to say that I believe in our responsibility as the best trained and best educated group of people in the world. With that responsibility and the boundless opportunity which that responsibility gives us, it is a real joy to attend meetings of the houses of delegates and see the breadth of vision which they manifest of our responsibility as an organization for the prevention of disease and for the treatment and cure of disease. The South has never had any money, or certainly it has not had any since the Civil War, and we ought to realize that our brains and our service are our wealth. Whatever

service we give to humanity and to our community and our nation is our capital; that is our wealth, and no one can take that away from us.

There is not the slightest question in your mind or my mind or in anyone else's that every fault in the attitude of the public generally toward health is our mistake. The people do not know anything about it. What they want is health. We have not thrown ourselves into the forum of public opinion in such a convincing way as to teach them the value of medical service when they are well and in the early stages of disease or at any time in disease. That is why Christian Science and other quackery flourishes. Anyone who has been trained in school and has studied physics and chemistry will know that you can not cure a physical ailment by pulling the patient's leg or playing a stop in his back or by any sort of spiritual exercise. It is necessary for us to realize our own ignorance and to tell each other what the requirements should be for practicing medicine rather than to tell the public and tell committees of legislative bodies.

The Great Physician is the head of our calling, and each of us is his liveried servant. We wear a uniform and insignia invisible to all but ourselves, and may that set us apart as a peculiar body for the service of mankind. That is our job; that is our responsibility. As long as we remember that, and as effectively as we make the rest of the world conscious of that fact, we need feel no anxiety of anyone's controlling us but ourselves. Whenever we forget it we do so at our peril; and whenever we prostitute the high knowledge we have for greed or selfishness or personal gain, then we shall be taken as the profession in so many other countries has been taken, and we shall be made the servant, willing or unwilling, of a public that will control us, and we shall have given away our freedom and our. destiny, as democracies can do, but as we pray to God this democracy shall never do."

The privileges of the floor were extended to Dr. McCormack and Dr. Des Portes invited him to take part in the discussions.

The following members of the House of Delegates were appointed by the President as the Refence Committee: Drs. C. H. Blake, Greenwood; Kenneth M. Lynch, Charleston; Robert Wilson, Jr., Charleston; David Adcock, Columbia; and William Weston, Jr., Columbia.

The Credentials Committee reported more than a quorum present.

The report of the Secretary-Treasurer being called for it was read by that officer, Dr. Hines, and was accepted. (Published in June issue).

The President said that with the approval of the House of Delegates he would ask his successor, Dr. Douglas Jennings, to carry out the recommendation of the Secretary by appointing a committee to take part in the sesquicentennial celebration of the Medical Society of South Carolina in Charleston. A

motion to authorize the appointment of such a committee was adopted.

Dr. DesPortes introduced Dr. Daisy G. Van Hoesen, of Rock Hill, physician and surgeon of Winthrop College and a delegate from York County. Dr. T. A. Pitts, Chairman of the Board of

Councilors, read the following report:

Report of Council

Mr. President and members of the House of Delegates of the South Carolina Medical Association: "I should like to give a brief outline of the duties

of the Council.

Council, as most of you know, is, for all intents and purposes, the executive committee of the organization. The members of the Council are elected by the House of Delegates, and this body has the power to act in the interim between regular meetings of the House of Delegates. It is also the financial body of the organization.

According to regulations, Dr. E. A. Hines, the Secretary-Treasurer and Editor, had the annual audit of our finances made. A copy of the report was sent to each member of the Council some days ago and the original sent to me as Chairman. After due study and discussion we found, at our regular meeting last night, all moneys accounted for in proper and regular form, that the bills of both the Journal and the Association have been paid, and further, that there is a small surplus in each account. Furthermore, there is approximately \$2,000 deposited in bank and Postal Savings. Council went on record commending Dr. Hines for his capable handling of the finances.

There was one called meeting of Council last year for the purpose of considering the Federal Farm Administration's plan for medical care for the indigent farm families. After due consideration Council approved the idea in principle but referred the matter to each county society to study out the details. The county societies may either accept, amend, or reject any part or all of the proposed plan.

At the regular annual meeting last night routine business was disposed of. After discussion Council went on record as unanimously approving a change in the hour of meeting of the House of Delegates, and I am instructed to make the following recommendations, viz:

That the House of Delegates meet at three p. m., on Tuesday of the annual meeting of the Association instead of at ten a. m. as at present.

Council will meet before the House of Delegates, as set out in the by-laws of our organization.

The reports from the Councillors about the affairs in their districts each stated the outlook to be good, and each carried some note of optimism.

It is the sentiment of Council that organized medicine is still a factor and that each officer and member should do his part to promote the welfare of the profession and thereby improve our service to the public. I wish to take this opportunity to express my appreciation to the members of the Council for the honor of again being elected Chairman and to express my thanks for their cooperation during the past year."

T. A. PITTS, Chairman.

On motion of Dr. Kenneth M. Lynch, duly seconded, the report of the Council, including its recommendation for a change in the hour of meeting of the House of Delegates, was adopted.

The President called for the report of the State Board of Health, and this was read by Dr. F. M. Routh, Chairman.

Dr. William Weston suggested that arrangements should be made whereby the State Laboratory may be kept open on legal holidays, because of the importance of getting prompt reports. Dr. Routh explained that the laboratory is closed on some holidays, but that arrangements are made to have its services available in case of necessity.

President Des Portes commended the work of the State Board of Health, and particularly that of the laboratory.

The report of the Committee on Scientific Work was called for, and Dr. P. M. Temples, the Chairman, gave it as follows:

Report of Committee on Scientific Work

Your Committee has endeavored to formulate a program that will have features of interest for everyone. We have followed the policy adopted last year of having round-table conferences, but did not break them up into sections, as we feel that the subjects to be discussed will be of interest to almost every member. We are very proud to have been able to secure the speakers who will appear on the program and are very grateful to the doctors of the State who have volunteered papers.

The report of the Committee on Public Health and Instruction being called for, it was read by Dr. I.ee W. Milford, Chairman; and on motion the report and the recommendations embodied therein were accepted. Dr. C. N. Wyatt, of Greenville, discussed the matter of student health work, especially in the detection of tuberculosis, and spoke of the need for this in Negro colleges and schools.

Dr. Robert E. Seibels, Chairman, gave a summary of the report of the Committee on Maternal Welfare, and read a list of the hospitals which have adopted the rules, as previously recommended by the Committee for the handling of complicated cases. In closing Dr. Seibels recommended that the Committee be continued. The report and the recommendation were accepted.

The President called for the report of the Committee on Public Policy and Legislation, which was given by Dr. J. McMahan Davis, Chairman, as follows:

Report of Committee on Public Policy and Legislation

"Your Committee wishes to report that the Association is in good condition. In the House of Representatives of our State legislature no committee adopts any measure affecting us as a profession except after consultation with this committee. Our influence is, however, negative rather than positive. Though we can kill anything in either branch, we should like our influences to be a little more positive. If, when we inform the local societies of what action we think should be taken by the legislature on some particular measure, the members of each local society would see their representatives when they go home for the week-end, as we request, and discuss the matter with them and show them our side of it, that would have a much greater effect. This year we have not had a great deal of difficulty except with one measure which the Senate Medical Affairs Committee killed. That was to require pre-marriage examination for syphilis, and between three and five hundred women appeared in favor of it. We had had a report from the American Medical Association that the bill was inadequate. It was rather hard to fight, but the President of the South Carolina Medical Association came down and with his aid we killed

Our Committee asks that this session of the House of Delegates consider the advisability of adopting such a bill and that it suggest a bill for presentation to the legislature for adoption.

This concludes my report, except that I should like to read a few lines from Dr. John H. Stokes' article in the Journal of the American Medical Association, entitled "Syphilis and The Law."

(Chairman Davis then read an excerpt from the American Medical Association Journal of March 25, 1939.)

I have here the pre-marriage examination bill given us by the American Medical Association. You see the extent of it. The medical profession must consider how they want this done. In one bill under consideration the physical examinations were to be made by the State Board of Health, not considering the private physicians at all. That would have necessitated, according to the public health group, with whom I discussed it, the addition of forty men to their force, and it would have cost approximately \$20,000 plus their expenses for this work.

If such a bill is passed in South Carolina it will necessitate approximately 24,000 free examinations each year, as there are approximately 12,000 marriages in the indigent class. It is for you to determine whether you want to ask for the payment of five dollars for each such examination by a private physician or whether you want to turn the work over to the State Board of Health.

Our Committee have instructed me to report that

we feel we should not be the third state to enact adequate pre-marriage examination laws. There are twenty-six states now which have some type of law, but Surgeon General Parran says that in twenty-four of those states the laws are not worth the paper they are written on. If we must have a law let's have an adequate one. Let's not go through the experience of North Carolina, which three years ago passed an adequate law but last year had to repeal it because of its ineffectiveness, and its hindrance to the general antisyphilitic work.

On motion of Dr. Julian P. Price, the matter of a pre-marital examination law was referred to the Reference Committee for study and recommendation.

The President read the follwoing telegram from Mr. C. P. Loranz, Secretary-Manager of the Southern Medical Association: "Greetings and all good wishes. We hope you are having a most successful annual meeting."

The report of the Committee on the Control of Cancer was called for, and this was read by Dr. F. E. Kredel, the Chairman, as follows:

Annual Report of Cancer Control Committee

In April, 1938, the Committee, under the chairmanship of Dr. Allison, with the Women's Field Army carried out in many parts of the state an educational and enlistment campaign. A total of \$1,525.64 was subscribed, of which seventy per cent was retained in the state. The present balance of this fund is \$849.60. A similar campaign has been inaugurated this year, although somewhat hampered by illness and resignations among the Field Army personnel.

An exhibit of educational material on cancer control is presented at this meeting. Free pamphlets suitable for lay distribution may be procured by members of the Association at this exhibit. A 100-page book on cancer will be sent to all subscribers to this year's campaign.

A cancer survey under the direction of the Medical College Faculty, assisted by a W. P. A. grant, is now under way. Preliminary results point out the need for more public education on the early symptoms of cancer, which is on the increase in this State.

It is suggested, since this committee is the only agency whose function is actively to promote such education in South Carolina, that the committee be enlarged to include at least one member from each district.

Respectfully submitted, F. E. KREDEL, Chairman."

The President said that the recommendation for enlargement of the Committee would be taken up before adjournment of the House of Delegates.

A summary of the report of the Committee on the Study and Control of Syphilis was given by the Chairman, Dr. James Edward Boone.

Dr. C. H. Blake, Chairman of the Reference Committee, reported that the Committe finds that the proposed pre-marriage-examination bill before the

legislature is inadequate and would be ineffective and therefore recommends that it be not approved by the South Carolina Medical Association and furthermore, that the Committee on Public Policy and Legislation continue the study of an adequate bill for the purpose of presentation to the Council and the preparation of such a measure for the consideration of the next legislature.

On motion of Dr. Weston the report of the Reference Committee was adopted.

Dr. H. Grady Callison, Chairman, read the report of the Committee on Public Relations and then suggested that the committee be continued, which recommendation was adopted.

The report of the Committee on Degenerative Diseases was read by Dr. Hugh Smith, the Chairman. On motion it was accepted and the committee discharged.

Dr. J. I. Waring, Chairman, read the report of the Committee on Historical Medicine, which embodies a recommendation for a grant of \$100 to this committee for its work. It was moved that the report and the recommendation be adopted, and the matter was discussed by several members. Dr. Kenneth M. Lynch offered a substitute motion providing that the recommendation be referred to the Council, with power to act and to grant an appropriation of whatever amount it deems advisable up to \$100; and the substitute motion was adopted.

(To be continued)

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Number 8

The Management of Some Problems of Thoracic Surgery

FRANK P. COLEMAN, M. S., M. D., COLUMBIA, S. C.

It has become conventional and practical to divide the field of chest surgery into surgery of non-tuberculous chest diseases, and surgery of pulmonary tuberculosis.

PULMONARY TUBERCULOSIS

This disease not only offers the thoracic surgeon, medical tuberculosis expert, and above all you who encounter pulmonary tuberculosis daily in your medical practice a serious responsibility, but it is still the most difficult health problem that confronts this state and the nation.

Tuberculosis is the cause of death in more individuals between the ages of 15 and 45 years than any other disease. There are more than 9,000 active cases of pulmonary tuberculosis in South Carolina today, and last year 962 people in this state died from this disease. 80 per cent of the patients admitted to the South Carolina State Sanatorium are classified as far advanced.

The surgical treatment of pulmonary tuberculosis has made rapid progress in the past ten years, for in 1928 few physicians were using any of the known types of collapse therapy. In 1934 the American Medical Association made a survey of Sanatoria in general and issued a report relative to 67,000 patients. 20 per cent of these patients were receiving some method of collapse therapy. Only 17

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per cent were arrested or apparently arrested of their disease. In 1937, Leslie and Anderson¹ made a similar review, covering a five year period in a sanatorium where early and intensive collapse therapy was being used. During this period, 1,124 patients were hospitalized and 79 per cent received collapse therapy. 72 per cent of the patients receiving this form of treatment were arrested or apparently arrested of their disease.

Approximately 80 per cent of patients admitted to sanatoria are in need of some form of collapse therapy. At the present time, there are fourteen distinct operative procedures used in bringing about a collapse or rest to the diseased area of the lung. Only brief reference will be made to the most important measures of surgical collapse.

The simplest of all collapse surgical procedures is a phrenic nerve interruption, either permanent or temporary, resulting in a paralysis of the diaphragm. A temporary phrenic nerve paralysis is a revocable procedure. If the rise of the diaphragm does not accomplish the desired effect, the nerve will regenerate in from 6 to 9 months, and such a procedure will not interefere with a future recommendation. This form of collapse therapy has been abused. Too many permanent phrenics have robbed a large number of patients of some other treatment that has a good chance of restoring their health. The indications for a paralysis of the diaphragm are numerous.

and in properly selected cases a good result can be expected.

Pneumothorax patients are handled as a rule by the internist. 50 per cent of all patients with pulmonary tuberculosis receiving collapse therapy are receiving this form of treatment. In patients where pneumothorax is indicated it is impossible to obtain an intrapleural space in 20 per cent of them. In other cases it is possible to obtain an intrapleural space, but due to the presence of vicero-parietal adhesions or some other factor the pneumothorax is considered to be ineffective in that a cavity remains open or the sputum continues to be positive. An ineffective pneumothorax without any possibilities of being made effective is a treacherous "disease" in itself. Air should be abandoned in these cases and some other collapse procedure sub-

Approximately 30 per cent to 40 per cent of the cases receiving pneumothorax will require a closed intrapleural pneumonolysis to make the pneumothorax effective. This operative procedure is carried out by the insertion of a thoracoscope (an instrument similar in design to a cystoscope) through an intercostal space into a partial pneumothorax. Through another intercostal space the cautery is inserted through a cannula and the adhesions are divided under direct vision. Three months should elapse in general during which time the pneumothorax is continued, prior to a division of the adhesions.

In a group of patients where a pneumothorax fails and where an unstable lesion contraindicates a thoracoplasty an extrapleural pneumonolysis is carried out, filling the extrapleural space with air. This method of collapse therapy, extrapleural pneumothorax, is rapidly gaining for itself an important place in the treatment of pulmonary tuberculosis. In other cases where a thoracoplasty is indicated, but the age of the patient, low vital capacity, and location of the cavity contraindicate decostalization of the chest wall, the extrapleural space is developed and a paraffin pack inserted.

Oleothorax consists of the intrapleural injection of oil. This procedure finds its chief

indications in cases of obliterative pleuritis and in tuberculous empyemas.

10 per cent of the patients admitted to sanatoria are in need of a thoracoplasty. It was their only hope of a cure prior to the introduction of the procedure, extrapleural pneumothorax. A large number still require a thoracoplasty, and this operation functions by decreasing the size and restricting motion of the operated hemithorax. It offers these utterly hopeless cases from an 80 to 90 per cent chance of closing their cavities with a resulting negative sputum. Thoracoplasty patients in general have a more permanent cure than other collapse procedures. It is an operation of some magnitude, but with the evolution of an improved technique, selective operative procedures, and a better understanding of the indications, thoracoplasty will always remain one of the best methods of collapse therapy. See Figures 1-A-B.

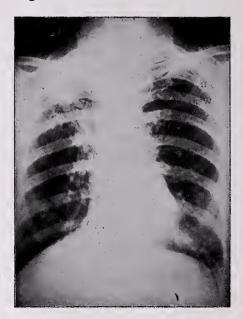


Figure 1-A

White female, aged 55 years. Known case of pulmonary tuberculosis for 13 years. Bed rest in Sanatorium for 6 years. Pneumothorax on right failed. Temporary phrenic right did not result in any improvement. Vital capacity 71 per cent. Sputum volume 68 gms. per day and highly positive.

Surgery is being successfully applied to an ever-widening variety of bilateral as well as unilateral cases of pulmonary tuberculosis. This has been accomplished by the introduction of new operations, refinement of the old opera-



Figure 1-B

2 months after the last stage of a 2 stage (6 ribs) posterio-lateral extrapleural thoracoplasty (rt.) Note the selective collapse of the diseased apex sparing the healthy lower lobe. Vital capacity is the same as before operation. Sputum is free of tubercle bacilli for the first time in 13 years.

tions, a better understanding of the indications and contraindications for various procedures, and by experience the limitations and capacities of these operations are more clearly defined.

EMPYEMA

That there is an empyema problem is apparent from the high mortality that follows the late diagnosis and treatment of acute empyema, and from the organic degenerations, protracted disabilities and deformities that occur in neglected cases of chronic empyema. World War experiences and the teaching of Graham did much to place the treatment of empyema upon a sound physiological and scientific basis. Little can be done to prevent the occurrence of an acute empyema; however, improper drainage, by far the most frequent cause of an acute empyema becoming chronic, is preventable. Improper drainage is chiefly responsible for persistence of pyogenic infection in the walls of the empyema cavity and for the production of excessive scar tissue on the pulmonary pleura that binds down the lung, preventing it from expanding to meet the thoracic wall and from obliterating the empyema cavity. Improper drainage may indicate: too early open drainage, too late a drainage, or a drainage of too short a duration; too narrow a tube or none, too short a tube, or too long a tube; not dependent drainage; no provisions antiseptic irrigations; and undrained pockets. Other causes of an acute empyema becoming chronic are persisting infection in the walls of the empyema cavity which may be pyogenic, tuberculous, or actinomycotic; (2) excessive scar in lung or on the visceral pleura preventing pulmonary expansion; (3) bronchopleural fistula; (4) communication with neighboring structures such as osteomyelitis of a rib, perinephritic abscess, or neoplasms of the lung and mediastinum; and (5) a foreign body in the emypema cavity.

The management of a chronic empyema is at times a formidable procedure, but the gratifying results of modern surgical treatment are striking. An extrapleural thoracoplasty may suffice in closing the cavity; however, a combination of this type of thoracoplasty plus a Schede' thoracoplasty frequently supplemented by a muscleplasty are called upon to close these massive chronic empyema cavities.

BRONCHIECTASIS

In the past decade great strides have been made in the management of this chronic suppurative disease of the bronchi and lungs which manifests itself either as a saccular type or as a cylindrical type of bronchiectasis. This disease is a result of infection in the bronchial wall, and in childhood it frequently is a sequela of pneumonia, measles, whooping cough, influenza, scarlet fever, and foreign bodies in the air passages. In the adult, pneumonia, influenza, and lung abscess are the most common causes of bronchiectasis. There appears to be a definite relationship between chronic sinusitis and bronchiectasis.

Symptomatically the disease manifests itself by a chronic productive cough, loss of weight, secondary anemia, and a foul sputum. The patient will frequently give a history of recurrent attacks of pneumonitis, hemoptysis, and an illness which dates the onset of the disease. Untreated, a high percentage of these cases will eventually die either of pneumonia, pulmonary hemorrhage, or of a brain abscess.

It is not uncommon to see an advanced case of bronchiectasis denying a history of the production of a foul sputum, but revealing a history of recurrent severe pulmonary hemorrhages. This type of case is classified as dry bronchiectasis.

The surgical treatment of bronchiectasis, either a one stage or two stage lobectomy, coupled with the recent advances in anesthesia and a better understanding of the physiology of the chest, is well established. In a series of 84 cases Churchhill of Boston has been able to report a mortality rate of less than 3 per cent. Alexander of Michigan, Overholt of Boston, and many others report a mortality rate of less than 13 per cent. The mortality rate will parallel the severity of the disease in a given group of cases, and a higher mortality rate is expected in cases upon whom a bilateral lobectomy is performed. It is gratifying to know that a majority of these cases, even with latent disease, tolerate an operation of this magnitude surprisingly well. See Figures 2-A. B. C. D.



Figure 2-A

White female, aged 23 years, admitted to Providence Hospital October 28, 1938 with severe saccular bronchiectasis of right lower lobe as shown by bronchogram (AP film). Daily sputum quantity 400 cc. Pneumonia on 5 occasions in past 3 years. Onset bronchiectasis age 9 years following measles.

The early cylindrical disease of the bronchi offers a problem, while saccular disease "dry

or "wet," disease with recurrent attacks of pneumonitis or with hemorrhage, and disease



Figure 2-B

Lateral film of chest as illustrated in figure 7-A showing bronchiectasis limited to the right lower lobe. A bronchogram on the left side showed an absence of the disease.



Figure 2-C

Specimen (Rt. lower lobe). Arrows point to large bronchiectatic cavities. The entire lobe is studded with cavities such as can be seen in periphery of the lobe.



Figure 2-D

Appearance of patient on the eighteenth postoperative day. She is now at home, free of cough and sputum, and a residual broncho-cutaneous fistula is about closed.

with continued purulent sputum, the treatment is definitely surgical. Instillation of iodized oil in early cases offers symptomatic relief by clearing up the infection, but if repeated attacks of infection occur with purulent sputum lobectomy at this stage of the disease is a far less serious procedure than in the case illustrated. Bronchoscopic and postural drainage have their indications, and they are accepted as of most importance in the preparation of the patient for a lobectomy and for a pneumonectomy, if the extent of the disease indicates the latter.

LUNG ABSCESS

In spite of an improved technique in the surgical management and conservative or medical management of lung abscesses the mortality rate from this disease remains high. In a series of cases reported by Rives and Romano², the known mortality rate was 42 per cent. Allen and Blackman's³ collected statistics show a mortality of 34.3 per cent in 2,114 cases. This report comprises cases from the best medical centers and the actual situation is probably worse than these figures indicate.

Operations on the respiratory tract lead all other types of operations in the percentages of complications by a lung abscess. Pneumonia and influenza are causative diseases. Foreign bodies, tumors, traumatic injuries, and septicaemias are frequently exciting causes.

The management of a lung abscess is at times difficult. It cannot be denied that a fair percentage of these cases get well, if left alone. A fair percentage will require meticulous medical attention, blood transfusions, supportive treatment, and postural drainage to aid them in a recovery. On the other hand surgery is urgently required in some of these cases for a recovery. If the lung is extensively involved, the mortality will be high regardless of your selected therapy.

The primary causes of death in order of importance are; spreading pneumonitis, empyema, brain abscess, and anemia. Transfusions will correct the anemia. Early surgical drainage of peripheral lung abscesses, operative drainage in two stages, omitting the unjustifiable use of pneumothorax in lung abscess, avoidance of prolonged conservative treatment when the patient is obviously at a standstill or growing worse, and complete abandoment of needling the chest are some factors of importance in avoiding an empyema. abscess may be avoided by opening the lung abscess with the actual cautery, operating with the patient in the Trendelenburg position, and by avoidance of unnecessary probing with a needle at the time of operation. The all important cause of death, spreading pneumonitis, can be prevented to a degree by supportive treatment coupled with the judicious use of bronchial and external surgical drainage. Bronchoscopy has a place in the treatment of lung abscess, but in an acute lung abscess this procedure is contraindicated unless a foreign body is present. When the temperature subsides and the acute process stabilizes, bronchoscopy is indicated and it is indicated in the chronic lung abscesses. Postural drainage deserves mention. It is useless to tip a patient over the edge of the bed in an attempt to drain an abscess cavity in the upper lobe or in the superior portion of the lower lobe. If an abscess cavity is full and through postural drainage severe paroxysms of cough are initi-

ated, you are courting the fatal complication, a spreading pneumonitis. In elderly and debilitated individuals who are managing to raise their sputum satisfactorily it is not uncommon to see postural drainage recommended with a fatal spreading pneumonitis resulting. Postural drainage has a place, but localize the cavity and individualize the case for best results. Surgical drainage of deep seated cavities, surgical drainage of early acute lung abscesses, and prolonged conservative treatment when progressive improvement is not shown are other factors contributing to a spreading pneumonitis. Occasionally, it is necessary to drain a lung abscess in the acute stage. Arsenicals, and Guiacol are popular with a few clinicians, and they perhaps should be given a wider trial.

CANCER OF THE LUNG

It is now generally accepted that the increase in the incidence of cancer of the lung is not apparent but real. At the Cleveland City Hospital in the eleven year period from 1927 to 1937, inclusive, there were 100 cases in which autopsy was performed, which constituted 1.3 per cent of 7,685 consecutive cases studied post mortem and 9.4 per cent of 1,064 cases of malignant tumor studied post mortem⁴. In other words, one patient out of every ten with a malignancy has a cancer of the lung. This incidence alone signifies that cancer of the lung should be constantly considered in our problems of diagnosis.

In the past, most of the signs and symptoms of cancer of the lung in reality have been due to carciñoma of the structures involved by regional and remote extensions of the growth from the site of its primary origin. Cancer of the lung may be silent, and the first warning of its presence may be a primary brain tumor which later proves to be a metastatic lesion from cancer of the lung. On other occasions, the presence of a serosanguinous pleural effusion, a Horner's syndrome, recurrent laryngeal nerve paralysis, or evidence of superior vena cava obstruction, may be the first sign of a bronchogenic carcinoma. The manifestation of such regional and remote involvment in itself means that such a patient has advanced beyond the hope of a cure. The

text book picture of cancer of the lung: cough, pain in the chest, hemoptysis, and loss of weight, frequently is present, but again most of these patients are beyond the scope of surgery. Any patient over 40 years of age with a lung abscess must be carefully investigated with reference to a malignancy of the lung. In a series of 100 cases of cancer of the lung reported by Koletsky4, 30 per cent had associated a lung abscess. In a series of 76 cases of lung abscess operated upon by Tudor Edwards, 10 per cent proved to arise from cancer of the lung. If cancer of the lung is to be diagnosed early, it first must be kept in mind. It is often impossible to make a clinical diagnosis early, but such symptoms as a chronic cough, hemoptysis, presence of a lung abscess, the development of asthma in a patient over 40 years of age who has not had such previous symptoms, shortness of breath, and unexplained loss of weight should arouse our suspicion as to the presence of cancer of the lung. The presence of blood in the sputum was once pulmonary tuberculosis until proven otherwise, but now the burden of proof lies on the man who makes such a statement. Blood spitting is frequently a manifestation of a lung tumor. If you are suspicious of a cancer of the lung, a bronchoscopic examination will establish a diagnosis in 75 per cent of the cases. A routine X-ray examination of the chest will offer a clue. It may be necessary to do a diagnostic pneumothorax, but it will be possible in the majority of cases to establish a diagnosis. Recently Barrett⁵, published Dudgeon's results on the examination of the sputum for tumor cells. In 43 cases diagnosed as malignancy of the lung fragments of new growth were found in the sputum of all these cases. In 19 cases suspected of having malignancy where no fragments of new growth were found in the sputum all proved ultimately not to have malignancy. This method of approach offers great promise.

The successful surgical treatment of cancer of the lung by lobectomy and pneumonectomy does not differ from the treatment of cancer elsewhere in the body. The absence of one lung is not incompatible with a vigorous and active life. The remaining lung undergoes hypertrophy and the cardio-respiratory balance

is soon restored to its preoperative state. A one stage operation removing the entire lung and mediastinal glands after the method of Rienhoff⁶, is the most popular technique of today in the good risk patient. A two stage procedure in which the pulmonary artery is ligated during the first stage with removal of the lung at the second stage is practiced in the poor risk patients. X-ray therapy has not proven effective in the management of cancer of the lung, and there is no authentic case on record to my knowledge where a cure has resulted. If a lung abscess develops secondary to a bronchogenic cancer and if surgically drainage of the abscess is established, X-ray therapy is certainly a worth while palliative procedure.

HYPERTENSION

In the past few years the current medical literature has been filled with clinical and experimental reports on the subject of hypertension. Most of these reports deal with operations upon the sympathetic nervous system which results in alleviating a persistent elevation of blood pressure. A startling multiplicity of theories as to the cause and nature of hypertension are discussed and for a review of this subject I would refer you to John Martin's article, "The Surgical Treatment of Hypertension."7 Craig8, of the Mayo Clinic reported a series of 158 cases with benefit in 70 per cent of the patients, clinically. His contraindications for operation were as follows: an age of more than 50 years, congestive heart failure, angina pectoris, marked renal insufficiency, and advanced arteriosclerosis. Peet9, was the first man in America to do a bilateral intrathoracic sympathectomy for hypertension and up to the present time his series totals more than 400 cases. Some of his patients are showing a persistence of clinical cure or great amelioration of symptoms for as long as 5 years. In 1935, Peet 10, reported a series of 100 cases with the following results: 4 per cent operative mortality; 7 per cent showed no improvement; 16 per cent showed slight improvement, characterized by a slight fall in blood pressure with relief of symptoms; 33 per cent marked improvement with a marked fall in blood pressure and relief of symptoms;

and 15 per cent were classified as tentatively cured. This gives worth while improvement to 77 per cent of his patients, and Craig's results are in keeping with Peet's series.

It is gratifying to know that we can offer these patients relief by sympathectomy in a worth while per cent of them.

MEDIASTINAL TUMORS

The mediastinum has long been looked upon as an inaccessible cavity and difficult to approach in that the posterior portion is situated deeply between the pleural cavities and inclosed within a strong bony cage. These difficulties have been surmounted and there is little hesitancy in removing a tumor or cyst from any location in the mediastinum.

These tumors behave as new growths in any part of the body. If the tumor is benign, the growth is slow, usually symmetrical, well demarcated on the X-ray film, and the first symptoms are usually those resulting from compression. If the tumor is malignant, the growth is rapid, infiltrative, may or may not be well demarcated on the X-ray film, and it may manifest itself either by compression symptoms or by involvment of the contiguous structures. A pain in the chest which is persistent, localized, and well defined bears investigation clinically, supplemented by an Xray film of the chest. Mediastinal tumors are notorious for the paucity of physical findings in the chest examination.

Tumors of the mediastinum are as a rule not difficult to diagnose, if the location of the tumor is identified and kept in mind. Solid tumors are usually present in the posterior mediastinum, and they arise in the majority of incidences from some nerve structure. may have a simple neuroma, ganglioneuroma, see Figures 3-A. B. C. D. E., perineural fibroblastomas, sympatheticoblastoma, neuro-fibromatosis of the mediastinum, or any type of tumor that arises from the sympathetic or peripheral nervous system in any other location. Tumors arising from the sympathetic chain lie close in the costo-vertebral gutter. The solid tumors or cysts arising in the anterior mediastinum and especially when they are located above the hilus of the lung belong to the general class of tumors teratomas or der-



Figure 3-A

White female aged 10, consulted Dr. W. A. Boyd, because of a scoliosis of one year in duration, and intermittent sharp pain in right chest for 3 months. The scoliosis, and tumor mass capping the dome of the right thoracic cavity is clearcut.



Figure 3-B

Lateral film of chest as illustrated in figure 3-A. Note the extent of the tumor and its posterior location. This location aided in a correct preoperative diagnosis of a mediastinal ganglioneuroma.

moids. A large group of tumors of the mediastinum are placed under a general classification of lymphoblastomas. The tumors frequently grow rapidly, lie in the posterior mediastinum close to the midline where the mediastinal lymph nodes are present, are frequently multiple, and respond like magic to radiation only temporarily.

It is impossible to discuss the surgical ap-



Figure 3-C

P-A film of chest 6 weeks after removal of the tumor. There is evidence of regeneration of the partially resected 2nd and 3rd ribs posterior. The scoliosis has shown improvement.



Figure 3-D

Appearance of the patient on the 17th postoperative day, 4 days after discharge from the hospital. The approach to the tumor was made through a parascapular incision which is illustrated above.



Figure 3-E (P-A)

Appearance of the tumor after radical excision. The three ramifications on the right extended into the neck between the roots of the brachial plexus thus explaining the pain in the right shoulder and thest. Microscopic examination revealed a fibroganglioneuroma, a benign mediastinal tumor.

proach to these tumors. After the tumor has been localized, it is best to surgically extirpate it through an approach which disturbs the continuity of the thoracic cage the least. Each case will offer an individual problem. If the tumor is definitely infiltrative and definitely hopeless, an attempt at surgical excision is not indicated, but decompression by dividing the sternum for relief of pressure symptoms may be indicated. If the tumor is confused with a lymphoblastoma, diagnostic radiation therapy may be tried.

If the tumor, either benign or malignant, offers any chance of radical excision, an attempt should be made to surgically remove it. See Figures 3-A. B. C. D. E. The cases with a benign tumor will be cured and a worthwhile per cent of those with a malignant lesion will be cured. Excluding lymphoblastomas, X-ray therapy does not offer the remaining malignant tumors of the mediastinum any benefit.

The scope of my subject is too broad for

a single article, and I am obliged to omit the ingenious procedures used for the removal of foreign bodies from the bronchi, lungs, and esophagus, and, regretfully, I must also omit reference to the repair of diaphragmatic hernia, pulmonary neurectomy for asthama, surgery of the heart and great vessels, anastomosis of the pectoral muscle to the heart muscle in coronary ischemia, repair of diverticuli of the esophagus, and even some valuable collapse procedures in the management of tuberculosis.

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Report of the Committee* on Maternal Welfare

By Dr. Robert E. Seibels, Chairman Committee on Maternal Welfare, S. C. Medi-CAL ASSO., COLUMBIA, S. C.

Upon tabulation of the results of the survey of the maternal deaths for the year ending June 30, 1938, it becomes apparent that no useful purpose would be served in publishing these tables as there was no appreciable difference between these and those published in the last report. We have decided, therefore, to omit these tables for this year and let the report for the next fiscal year analyze the five year study which will have been completed with the accumulation of the data from the survey for 1939.

MATERIAL

It is noted that the rate for the year is 7.2 per 1000 live births reported. This is probably accounted for by the reporting of a larger number of live births for 1938 than in the previous year; but is a significant reduction when compared with the rate of 9 per 1000 for 1935, and is even more significant when we note that this represents a drop from the total of 384 deaths in 1935 to 305 in 1938.

The method previously used for gathering the medical and social backgrounds of the deaths has been continued. A copy of each puerperal death certificate has been attached to a questionnaire and sent to the county in which the patient died for investigation under the supervision of the county health officer. There is an invariable delay of five to six months between the death of the patient and the beginning of this investigation occasioned by the system of having several registrars in each county who file their reports with the Bureau, where they are sorted, classified, and then referred to our Committee.

COMMENTS

Birth Certificates—The accepted method of figuring maternal mortality is on the basis of the number of maternal deaths per 1000 live Sources of error in computing the rate are-first, the accuracy with which the deaths are classified as puerperal, and second, the percentage of live births reported. We believe that the assignment of deaths to the puerperal classification is very accurate as the Bureau of Vital Statistics has been most cooperative with the Committee in asking permission of the physician to change to "nonpuerperal" those deaths which investigation has proven to have been erroneously so designated. The factor of the number of live births reported is evidently inaccurate. The Committee has no way to determine the number of live births except by comparison: we find that only 70% of live births are reported from cases terminating fatally. If this may be taken as a fair index of the accuracy of birth registration we may assume that there should be a 30% increase in our total live births which would make our rate approximately 6 per 1000—much more nearly in line with the rate for adjoining states and the national rate.

City and County Mortality Rates — The figuring of Mortality rates for the small sections may be misleading. Each death is charged to the county where the patient died. In several counties with active hospital services patients are brought in from surrounding counties which have no hospitals. This results in a high rate of admission of desperately ill patients some of whom have been IN EX-TREMIS and should not have been moved. Certain other areas with hospitals do not draw patients from adjacent territory, with the result that their rate is a more accurate index of both their prenatal supervision and of medical care. In one county, whose hospital is the center for

^{*}The Committee consists of Dr. Herbert Blake, Anderson; Dr. P. J. Boatwright, Orangeburg; Dr. R. B. Bultman, Sumter; Dr. J. Decherd Guess, Greenville; Dr. James McLeod, Florence; Dr. Lester A. Wilson, Charleston and Dr. Robert E. Seibels, Columbia.

Read before the House of Delegates, South Carolina Medical Association, Spartanburg, S. C., April 11, 1939.

three adjoining counties, prenatal care and good medical service have produced an extremely low rate among the residents of that county. However, the importation of moribund cases from adjoining counties has resulted in giving this county an apparently discreditable rate. This may be contrasted with a county in another section of the state which imports very few cases; but whose hospital practice is radical. The two areas have the same mortality rate but for entirely different reasons.

Activity of the Committee—The Committee gave long and serious thought to the problem of "hospital deaths." We estimated that obstetrical admissions to the hospitals are less than 10% "planned hospital deliveries," and the other 90% are admitted either because of the development of serious symptoms or because complications were anticipated. Therefore, it is quite unfair to compare mortality in the hospital with that in the home, because of the different type patient cared for in the former. The great majority of complicated cases are brought in because of eclampsia, hemorrhage, and prolonged labor; and many are potentially septic on admission. this is true, it does not explain all the disasters of hospital obstetrics, as the study of the records continues to reveal a rather wide prevalence of radical operative deliveries among unsuitable cases. Operations are preformed in spite of strong contraindications; too frequently there is no record of complete history nor of physical examination nor of any laboratory work; consultations are rare even when specialists are available, and frequently operative deliveries are carried out by internes with no supervision.

Consultations in the hospitals are rarer than in the home in complicated cases, and in general it has been recorded that the general practitioner sought advice from his colleagues with much greater freedom and frequency than did the obstetrician or the general surgeon.

In order to focus the attention of the administrative heads of hospitals and their staffs on this problem, we submitted the following to each hospital reporting admission of obstetrical cases:

The Committee on Maternal Welfare of the South Carolina Medical Association recom-

mends the adoption of the following rules by every hospital in South Carolina taking obstetrical cases and their careful checking by the proper authorities to see that they are rigidly enforced.

1. Sterile gloves must be worn for all examinations and deliveries; hands must be scrubbed according to the technique observed in the operating room before putting on gloves.

2. All patients should be shaved and prepared according to the technique adopted by the hospital before any examination is made. Rectal and vaginal examinations should be as few as possible; the time of the examination, the physician making it, and the condition found should be entered on the chart.

3. The obstetrician and the anesthetist and nurses must wear masks over noses and mouths during the preparation, examination and delivery of the patient.

4. All cases of infection should be transferred from the maternity department and isolation technique instituted.

5. Consultation with a competent consultant is required in all of the following cases:

(a) All prolonged labors (24 hours)

(b) Cases requiring Cesarean Section.

(c) Breech presentation, unless under 28 weeks.

(d) Difficult forcep cases except outlet forceps.

(e) Versions.

(f) Occiput posterior presentation requiring forceps or version.

(g) Eclampsia, placenta previa or other serious complications.

The consultation should be formal, that is, the attending physician should write on an appropriate sheet on the chart an outline of the case, his diagnosis, and his plan of procedure and request the opinion of the consultant. The consultant should record his observations, his agreement or disagreement with his colleague's conclusions and the reasons for his decision. The choice of a consultant should be governed by local conditions. It is recommended that the attending physician be allowed to call the consultant of his choice.

6. Provision for isolation of infected cases.

If a case is infected on admission or becomes infected, it should not be taken care of in an obstetrical department or by nurses on general obstetrical duty. It is recommended that isolation technique be instituted for both the mother and the baby.

7. All normal cases must be visited at least daily by the attending physician and he should be present in the room when any obstetric interference is carried out. Internes should not be permitted to perform forcep deliveries, versions, or breech extractions, except under direct supervision of the attending physician, who should be held responsible for the technique and judgment used in the treatment.

8. There should be a special isolation nursery

with cubicles for babies with sore eyes, syphilis, impetigo, or other infections. They should be attended by special nurses wearing a separate pair of gloves for each case and gowns as well as masks should be worn by all entering this nursery as in other nurseries.

- 9. Adequate records should be kept in order to study cases and tabulate results in the annual report. The record sheets should be concise but contain all the essential information. If these records are too complicated it will be difficult to get the courtesy staff to fill them out properly. If a physician is not willing to keep a reasonable record he should be denied hospital privileges. Records should not be filed away until completed. Every hospital should make out an annual obstetrical report so as properly to evaluate its results.
- 10. Obstetrical staff conferences should be held regularly and open to all physicians interested. Monthly conferences are most valuable as here details are discussed regarding causes of complications, how to prevent them, and how to treat them, as well as reasons for maternal deaths. Any physician may occasionally make an error in judgment or technique but if he attends such conferences he is less likely to do so.

Discussion

Rules requiring consultation in abnormal cases.

While occasionally it may be a nuisance to a competent obstetrician to have a consultation, it must be remembered that the majority of hospital deliveries are not under the care of specialists in obstetrics. If physicians are going to treat abnormal cases without advice or assistance the reduction of maternal mortality can not be accomplished; furthermore, under the protection of the hospital he may undertake procedures which he may be unable to carry out without disastrous results to the patient and constituting a reflection on the hospital.

The competent physician who has carefully examined his patient and recorded the indications for interference and has in mind the dangers of the procedures he proposes to carry out, has nothing to fear from consultation and from such a professional meeting, both he and the consultant will have an opportunity to learn. Consultation should be free unless the patient is well able to pay a moderate fee.

For the sake of maternal welfare, petty jealousies must be put aside and a helping hand given to any physician dealing with abnormal cases.

"Obstetric surgery is in marked contrast to general surgery. In the latter, when operation is deemed necessary, the procedure is well defined; only occasionally has the surgeon any difficulty in deciding between alternative procedures. Technical skill is all important. In obstetric surgery, on the other hand, while technical skill is equally important, judgment in choice of procedure and in the

time to interfere may make all the difference as regards success or failure. This can only be learned by long experience, accurate observation and consultation practice."

-J. Monroe Kerr.

A form for obstetrical reports was sent each hospital with the request that it be kept on an annual basis and that a copy be sent to the Committee and also made available to the staff.

We are pleased to report that these rules and regulations were adopted by the following hospitals; The Tri-County Hospital, Orangeburg; the Tuomey Hospital, Sumter; the Conway Hospital, Conway; the Providence Hospital, Columbia.

Apparently the greatest obstacle to the adoption of these rules and regulations has been a failure of the staff to appreciate the need for them coupled with the theory that their adoption would seriously handicap the proper activities of a physician. For example, the question was raised concerning the inclusion of breech deliveries as a major complication. It is true that a breech can be a very simple operation, but it may be one of the most complicated and difficult obstetrical procedures that a physician has to face. The number of maternal and fetal deaths in breech deliveries makes clear the reason for including these in the consultation requirements rather than to leave it to the prognostic ability of a physician to determine in advance those which may be dif-The same reasoning is applicable to both forceps deliveries and to abdominal hysterotomys (Caesarean Sections).

This plan has been in operation long enough to demonstrate that it is practical and useful. A report from a hospital which adopted these rules states that no occasion has occurred when a patient suffered in any way by the delay incident to consultation; and further records two normal deliveries after consultation had convinced the attending physician that the planned Caesarean Section was unnecessary.

Recommendations

- 1. The Committee recommends the cooperative effort of all physicians to secure the adoption and effective use of the rules and regulations for the care of obstetrical patients.
- 2. That every effort be made to increase the registration of births.

JOURNAL THE

OF THE

South Carolina Medical Association

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AUGUST, 1939			

SOUTHERN PEDIATRIC SEMINAR

On July 24 the nineteenth session of the refresher courses given at Saluda, N. C., opened with an unusually large student body numbering approximately one hundred coming from as far West as Kansas but South Carolina had the largest quota of any of the States. There was a considerable enlargement of the scope of the Seminar this year which in addition to a very interesting pediatric program included many obstetrical problems since the majority of these graduate students are general practitioners. Another innovation this year was the well baby clinics conducted by representatives of the Children's Bureau of the United States. This Seminar runs for two weeks every year and it is believed that it is one of the most popular refresher courses in pediatrics in this country. The following South Carolina doctors were registered:

Dr. Robt. P. Jeanes, Easley, S. C.

Dr. J. O. Ryan, Chesnee, S. C.

Dr. F. Brinkley, Ellenton, S. C.

Dr. D. S. Keisler, Leesville, S. C.

Dr. James Crosson, Leesville, S. C.

Dr. J. S. Palmer, Allendale, S. C.

Dr. Walter E. Whitley, Pinewood, S. C.

Dr. Isaac Hayne, Congaree, S. C.

Dr. Robt. Black, Bamberg, S. C.

Dr. J. H. Mills, Mayesville, S. C.

Dr. C. E. Gamble, Turbeville, S. C.

Dr. J. V. Tate, Calhoun Falls, S. C.

Dr. Martin M. Teague, Laurens, S.C.

Dr. John Wyman, Denmark, S. C.

Dr. B. R. Johnston, Estill, S. C.

Dr. M. G. Peeples, Scotia, S. C.

Dr. Walter R. Wiley, Chesterfield, S. C.

Dr. John K. Webb, Fountain Inn, S. C.

Dr. F. T. Simpson, Westminster, S. C.

Dr. A. T. Hutto, Pelion, S. C.

Dr. W. A. Black, Beaufort, S. C.

Dr. C. I. Goodwin, Holly Hill, S. C.

Dr. James A. Fort, North, S. C.

Dr. F. K. Shealy, Clinton, S. C.

Dr. H. B. Senn, Newberry, S. C.

Dr. W. M. Evans, Monck's Corner, S. C.

Dr. Cecil Rigby, Spartanburg, S. C.

Dr. W. H. Breeland, Allendale, S. C.

Dr. R. E. Mason, St. Stephen, S. C.

Dr. J. R. McCormack, Olar, S. C.

Dr. J. I .Greene, Elloree, S. C.

Dr. J. C. Hall, Gaffney, S. C.

Dr. A. R. Johnston, St. George, S. C.

Dr. T. M. Stuckey, Bamberg, S. C.

Dr. J. W. Kitchen, Liberty, S. C.

Dr. H. R. Perkins, Laurens, S. C.

Dr. A. Ritter, Ridgeland, S. C.

Dr. A. R. Nicholson, Edgefield, S. C.

Dr. E. H. Moore, Newberry, S. C.

Dr. C. S. McCants, Winnsboro, S. C.

MEMORIALS TO PHYSICIANS

The handsome granite monument erected to the memory of Dr. John Boyd McKeown of Great Falls, S. C., and unveiled July 30, emphasizes a gratifying tendency not only in South Carolina but in other parts of the United States to recognize the invaluable services rendered to humanity by the members of the medical profession. In this particular instance the tribute was paid to a general practitioner in appreciation of his services of more than thirty years in one community, by the citizens of the community in which he had rendered this service.

In this connection it would be of interest to know just how many memorials have been erected to physicians in South Carolina and by whom. The medical traveler in different sections of the State frequently runs across some form of tribute to a deceased physician. Often these memorials have been placed in the local hospital, some erected by the citizens, some by medical societies, some by boards of trustees of the institutions but all in loving

remembrance of one who gave of himself for the benefit of the people in his respective community.

The Woman's Auxiliary to the South Carolina Medical Association has done a remarkable piece of work through its historical committee in preserving the records of the lives of many worthy physicians of South Carolina who have passed on. These records are now stored at the Headquarters office of the South Carolina Medical Association and available for any who are interested in them.

The recently organized historical commission of the South Carolina Medical Association is getting well under way accumulating other valuable records about the medical profession of this state with Headquarters at the Library of the Medical College of the State of South Carolina.

SOUTH CAROLINIANA

J. I. WARING, M.D., CHARLESTON, S. C.

CONSERVATIVE MANAGEMENT OF THE SINUSES, by J. W. JERVEY, Jr., GREEN-VILLE. SOUTH. M. J. 32:278, MARCH, 1939.

The author cautions the too ready use of surgery for infected sinus and urges that medical treatment be continued as long as possible.

A NEW INSTRUMENT FOR ASPIRATION BIOPSY; TECHNICAL PROCEDURE COM-BINING PRINCIPLES OF TISSUE PUNCH AND AN IMPROVED ASPIRATION SYRINGE, by F. WRENN AND J. M. FEDER, ANDERSON. SOUTH. M. J. 32:320, MARCH, 1939.

GIANT FACETED CALCULUS OF THE AP-PENDIX, by G. H. BUNCH AND D. F. ADCOCK. ANN. SURG. 109:143-146, JANUARY, 1939.

A case report, with pictures.

ACUTE NICOTINE POISONING WITH FATAL OUTCOME IN A CHILD, by J. P. PRICE, FLORENCE. AM. J. DIS. OF CHILDREN, 57:102, JANUARY, 1939.

Fatal result seventy-two hours after administration of "black leaf 40." Spinal fluid changes were noted.

ADENOMAS OF THE COLON, by S. SAILER, CHARLESTON. SOUTHERN SURGEON. 8:86-88, FEBRUARY. 1939.

A review of the pathology of this condition.

PROBLEM OF ROENTGEN THERAPY, by H. RUDISILL, CHARLESTON. SOUTHERN SURGEON, 8:89-94, FEBRUARY, 1939.

Discussion of differences in technique, individuals, and results.

CANCER SURGERY, by F. E. KREDEL, CHARLESTON. SOUTHERN SURGEON, 8:83-86. FEBRUARY, 1939.

A review of the surgery of cancer for the last months of 1938,

REGIONAL VOLUMETRIC STUDY OF THE GRAY AND WHITE MATTER OF THE HUMAN PRENATAL SPINAL CORD, by A. M. LASSEK AND G. L. RASMUSSEN, CHARLESTON. J. COMPARATIVE NEUROLOGY 70: 137, FEB., 15, 1939.

An anatomical study.

DR. LEWIS MOTTET'S PROJECTED INSTI-TUTE OF PHARMACY (1769), by J. H. HOCH, CHARLESTON. J. AM. PHAR. ASSN. 27:1260-1261, DECEMBER, 1938.

An account of a unique proposal to the State of South Carolina by a talented physician who was possibly too advanced for his time.

INTERESTING CASE REPORTS FROM ROPER HOSPITAL

For some time a plan has been under way to present to the physicians of South Carolina case reports from the teaching hospital at the Medical College giving in detail the methods pursued in the wards there. It is hoped that this presentation may be of service to the busy doctor in his practice.—Editor.

MULTIPLE STAGE OPERATION FOR GASTRIC ULCER

By Frederick E. Kredel, M. D., Associate Professor of Surgery and John A. Boone, M. D., Instructor in Medicine, Medical College of the State of S. C., Charleston, S. C.

The following complicated case of gastric ulcer showed on several occasions the two common indications for emergency operation, perforation and obstruction. The critical condition of the patient at the first two stages required a minimal amount of surgery as a life-saving procedure. An adequate operation for cure was performed at a third sitting.

W. E. N., white male aged 54, admitted September 16, 1938, had had the classical symptoms of peptic ulcer for some seven years and was diagnosed as such by X-ray in 1931. There had been numerous severe exacerbations. A massive hemorrhage took place 4 years ago. He had not been completely free from pain for any period during the past 3 years and various diets had proved unavailing. Four days before admission an acute flare-up with severe pain and vomiting began. 11 days of Sippy diet some improvement had occurred and a barium meal demonstrated an ulcer crater at the pylorus. Two days later, on the morning of the tornado, perforation occurred. Because of the confusion incident to the caring for some 300 injured tornado victims, surgical consultation was not obtained until 5 hours after perforation.

Operation revealed some 1500 cc. of milky stomach contents in the peritoneal cavity and a perforation 1/2 cm. in diameter 1 cm. proximal to the pylorus on the anterior wall. The opening was quickly sutured over with two mattress sutures of 0 chromic catgut and reinforced with omentum. There appeared to be some stenosis at the pylorus, but the patient's condition was too critical to warrant gastro-enterostomy. The blood pressure fell to 60 over 0 and the pulse rose to 140 when

the abdomen had been opened; so the incision was closed as quickly as possible, while intravenous fluids were given. The postoperative course was satisfactory except for the important fact that little or no food could pass the pylorus. All attempts at feeding resulted in gastric distress only relieved by aspiration through the Levin tube. Fifteen days postoperatively, the abdomen was reopened and an anterior gastroenterostomy with enteroenterostomy was performed. Feedings were begun on the third day and within a few weeks the patient stated he was able to eat his first square meal in 3 years. A marked edema of both lower extremities gradually disappeared on resumption of feeding. This appeared to be a nutritional edema for the plasma proteins were lowered to 5.28 grams. A cardiac factor may have been contributory since some orthopnea was present and the electrocardiograph showed evidence of posterior coronary occlusion.

The patient soon returned to work and had no difficulty for 4 months. However he was readmitted on March 10, 1939 with intermittent pain to the left of the umbilicus, nausea, vomiting, and constipation of 2 weeks duration. X-ray showed dilated loops of small A small amount of barium by mouth remained in the small bowel after 6 hours. A stoma ulcer was not seen. After an alcohol test meal, the gastric acidity was found to be Free HC1 58 units, total 68 units. This is a high figure, especially in the presence of a functioning gastroenterostomy. A diagnosis was made of small bowel obstruction and probable stoma ulcer. After four days of pre-operative treatment, consisting chiefly of Wangensteen suction-drainage and parenteral fluids, the third laparotomy was The anastomosis was adherent to the anterior abdominal wall and involved in an inflammatory mass surrounded by omentum. Separation revealed a large penetrating jejunal ulcer on the distal loop of the anastomosis. As this was freed an opening was torn in it. Numerous dense adhesions obstructing the small bowel and transverse colon were divided. The distal two-thirds of the stomach and 18 inches of jejunum down to the previous enteroenterostomy were resected en bloc. Continuity was reestablished by anterior Polya anastomosis with catgut. Examination of the specimen showed the jejunal ulcer to measure 5 cm. in diameter and to have penetrated through the serosa. There was gross evidence of a diffuse gastritis.

Convalescence was uneventful and the patient discharged on the 18th post-operative day in excellent condition. Now after four months he remains symptom-free on a relatively unrestricted diet. We have not succeeded in persuading him to discontinue his excessive use of the cigarette. We feel that smoking is contraindicated in cases of gastric and duodenal ulcer.

Several features of this case illustrate some principles of importance in the surgical treatment of peptic ulcer.

- 1. Acute perforation is best treated by simple suture performed as soon as possible. Cases upon whom operation is done within 6 hours rarely develop peritonitis.
- 2. When in severe cases, operation must be performed to relieve acute stenosis and further trouble in the form of a stoma ulcer may be anticipated, anterior gastroenterostomy can be more quickly done and will render more feasible gastric resection at a later date as compared to a posterior anastomosis.
- 3. Gastric resection has a definite place in the treatment of ulcer.
- 4. Patients with cardiac damage when well compensated and properly prepared will withstand major operative procedures in a satisfactory manner.

MINUTES

MINUTES OF THE HOUSE OF DELEGATES OF THE S. C. MEDICAL ASSOCIATION SPARTANBURG, S. C., APRIL 11, 1939 CONTINUED

Dr. J. McMahan Davis, Secretary of the Committee on the Medical College of the State of South Carolina reported as follows:

Report of Committee on Medical College of State of South Carolina

I wish to submit this report for Dr. L. M. Stokes, the Chairman. The committee deemed it to be to the interests of the medical college to give a dinner to the members of the legislature. A banquet financed by the alumni and the Executive Committee of the college was given on January 25, and was attended by approximately 350 people. The reaction among the legislators was extremely favorable.

The Ways and Means Committee granted a hearing, which was not tremendously successful, because the legislature is in a rather sad state. Unless it is able to get the money somewhere the medical college is going to suffer. We have assurance from some of the prominent members, however, that if possible the appropriation will be raised. We are very much afraid we shall not get over \$150,000, although we are trying to have the appropriation raised to \$165,000. If the plan proposed by Senator Sims is adopted and the six million

dollars additional is raised, then we hope to get adequate appropriation.

President Des Portes urged that each member of the House of Delegates use his influence with the legislators from his county, in behalf of the medical college.

Dr. Kenneth M. Lynch, Chairman, reported for the Cancer Commission as follows:

Report of Cancer Commission

The Cancer Commission is really a virginal birth; it is an agency in the formation of which this Association has had no direct part. The need for it arose last fall, in the interim between meetings when it could not, of course, be put before the Association directly, coming about by reason of the fact that the Federal Government is undertaking to enter somewhat the field of cancer control. became at least advisable for the State Board of Health to make provision for participation in whatever program might be developed, for the good of the people of this state. The State Board of Health, through Dr. Hayne, the Health Officer, asked the President of the Association to name an advisory body from the Association to deal with and advise State Health Department in developing measures for such participation. The President appointed this commission as the result of that request, there being one member from each congressional district. You will see the personnel in the program. The particular design in its origination was the fact that the Federal Government announced that it would have for loan through certain particular channels radium for use in the treatment of cancer. In order for anybody in this State to obtain such a loan it was necessary that the channels be set up through which it might be made. That was the primary motive for the formation of the commission. It is possible now, I believe, that those who apply through the State Board of Health may obtain a loan of radium for such use.

The Cancer Commission has had several meetings during the course of this year. In addition to this outline for the securing of whatever benefits may come from the Federal cancer-control program it has been our desire to have passed the so-called "Cancer Control Law," in line with other states, so that the State Health Department may cooperate with and take advantage of all such available aid as may come, particularly through Federal control measures. We have formulated a cancercontrol law and submitted it through the State Health Department to which we are only an advisory body, to the legislative committee of the Association and to the Council, I believe. The Committee on Public Policy and Legislation and the Council approved this bill, which was then turned over to the Medical Affairs Committee of the House of Representatives, as it was our desire that such a bill have a more or less free course and not be controversial. It was our idea that, after approval by the agencies of this Association as to whether or not it is a proper bill, it should then be in the form of a medical-committee bill. We had a very sympathetic hearing before the Medical Affairs Committee, but that Committee questioned the possibility of the appropriation at this time of the \$25,000 which is asked for in the bill. The legislative committee proposed to the Medical Affairs Committee that even without the appropriation the bill is worth while as an enabling act to establish through the Health Department channels to receive whatever benefits may be available. This bill is an authorizing bill. I presume the State Board of Health could enter this field without any enabling act, but the bill authorizes the Department to establish a bureau or division of cancer control. It authorizes the establishment of this Cancer Commission from the Association. The program proposed is that the Health Department, with the advice of the Cancer Commission, undertake with the cooperation of the profession in all the regions of the State to have set up certain diagnostic and treatment centers organized by the profession in certain strategic or logical cities in which indigent people with cancer may receive proper diagnostic and curative measures.

We all realize, of course, that this is entering upon a field which the Health Department heretofore has strictly and carefully avoided. It does bring the Health Department into participation in curative medicine, and that of course is objectionable to all of us. But, as in a great many things which are happening nowadays, conditions are arising and will continue to arise in which, if we do not take the leadership, the leadership will be taken from us and we shall be subject to things to which we do not care to submit. The cancer problem has become in the public mind tremendous. It so happens, as you all know, that there are a great many peop!e in South Carolina with cancer, as there are in other states, who are unable or have not the means to obtain such medical service as may be available to bring about in a great many cases relief of that state.

It is proposed that, strictly through the profession, people who can not now receive treatment may go to certain places where the facilities are such that everything may be done that can be done and there receive treatment at public expense, whereas now they would remain untreated because of lack of facilities or lack of means to utilize such facilities as exist. I may say that as long as I am a member of the State Board of Health and am your servant I will never participate in any movement to practice medicine on the part of that Board. It is, of course, necessary for us to organize to take care of the indigent. Certain localities are doing that and have done it all the while. Others are not. The cancer problem has grown so much in proportion, so much in volume, and so much in the public mind that it is going to be necessary to organize to take care of those who are unable to take care of themselves. It is going to have to be very carefully done, and it is necessary for us to organize to take the leadership in many such matters so that the leadership will not be taken away from us.

That is the status of the Cancer Commission. It exists as a creature of this Association, appointed by your President, to be an advisory body to the State Board of Health. Its activities up to this time have been making a way by which Federal aid can be obtained for South Carolina. Further than that its work will be to bring persons who may be prevented from having cancer under the proper agencies and is not the diagnosis and treatment of cancer.

The report of the Cancer Commission which was discussed by President-elect Dr. Douglas Jennings, by the President, by Dr. Lynch, and by the State Health Officer Dr. James A. Hayne, was accepted by the House of Delegates.

President Des Portes called for the report of the Committee on Necrology. Dr. W. C. Mays, the Chairman, was absent. While the members stood in respect to the memory of the deceased, Secretary Hines read the names of the South Carolina physicians who have died since the last meeting.

A recess was then taken, at one o'clock p. m., until two-thirty p. m.

Afternoon Session

The meeting was called to order at two-thirty by the President, who asked for the report of the Credentials Committee. The Chairman, Dr. Mac-Donald, stated that there are seventy members of the House who have qualified and are entitled to vote.

President Des Portes called for a report from the Delegates to the American Medical Association, and Dr. Hines gave it as follows:

Report of Delegates to American Medical Association

The report will be very brief because Dr. J. H. Cannon, who was to make it, has been kept at home by serious illness which developed in his family just a short time before he was to leave for this meeting and because we had agreed that a comprehensive report would be unnecessary on account of the wide publicity given to the doings of the American Medical Association at both the San Francisco and St. Louis meetings.

Your Secretary and Senior Delegate was honored by being appointed on two committees, one the Press Release Committee, with Dr. Fishbein.

We have been very glad indeed to have Dr. William Weston in the House as a representative of the powerful Pediatrics Section of the American Medical Association. That means that we have three South Carolinians in the House of Delegates, all thoroughly familiar with its organizations, its rules, and its procedure. We hope sometime, of course, to secure even greater honors from the national organization for our State.

The report of the State Board of Medical Examiners was read by Dr. A. Earle Boozer, its Secretary.

The delegates to other state societies were asked to report, but none were present.

New Business

Dr. James J. Ravenel, Delegate from the Medical Society of the State of South Carolina, Charleston, invited the Association to meet in that city next year. The Secretary then read a letter from Daniel Ravenel Co., in regard to a convention cruise. On motion of Dr. Weston the invitation to Charleston was accepted.

The following resolution was adopted.

"Whereas there has been introduced into the United States Senate a bill by Senator Wagner of New York, known as the National Health Bill, and

"Whereas there have been certain amendments offered, and

"Whereas these are instruments not conducive to the best practice of medicine, and

"Whereas the medical care of the population would be established at a lower level if they should be passed;

"Therefore be it resolved that the House of Delegates of the South Carolina Medical Association go

on record as not favoring this legislation, and

"Be it further resolved that the Secretary be instructed to write Senators Byrnes and Smith and the South Carolina members of the House of Representatives to this effect."

Secretary Hines said that he had received a telegram from Dr. W. F. Reavis, of Waycross, Georgia, one of the fraternal delegates from that state, saying that he was unexpectedly detained and expressing his best wishes for the success of the meeting.

Dr. Hines then read a letter from Dr. W. Atmar Smith, of Charleston, in regard to the meeting of the Southern Tuberculosis Conference to be held there in October.

Dr. Jennings, the President Elect, announced the appointment of the following committee to take part in the celebration of the founding of the Medical Society of the State of South Carolina: Dr. William Weston, Sr., Columbia, Chairman; Dr. J. R. Des Portes, Fort Mill; Dr. J. B. Lattimer, Anderson; Dr. M. E. Hutchinson, Columbia; Dr. C. Williams Bailey, Spartanburg; and the President and Secretary of the State Medical Association ex officio.

Dr. Jennings then stated his idea of the function of the Association's Committee on Public Relations, saying that in his opinion the Committee should be authorized to inform the public through the press, by radio, and through a bulletin, if necessary, on the medical profession's attitude towards social medicine and the Government's program. He asked the approval of the House of Delegates to appoint an active committee on Public Relations, probably centered in Columbia to carry out such a program. On motion of Dr. Robert Wilson, Sr., seconded by Dr. William Weston, Sr., the suggestion of the President-Elect was indorsed by the House.

Election of Officers

The President asked the Committee on Credentials to act as tellers for the election.

Nominations to the office of president-elect were called for. Dr. Carl A. West, Camden, nominated Dr. J. Sumter Rhame, of Charleston, and Dr. D. L. Smith, of Spartanburg, nominated Dr. W. L. Pressly of Due West. The nominations of Dr. Rhame were seconded by Dr. MacDonald and Dr. Wilson, and that of Dr. Pressly by Dr. R. E. Abell, Chester and Dr. James R. Young, Anderson. Voting proceeded by ballot. The tellers reported the result as follows: Dr. Pressly, 42; Dr. Rhame 26. On motion of Dr. Wilson the election of Dr. Pressly was made unanimous.

At the request of President Des Portes the newly elected President-Elect was escorted to the platform by Dr. Young and Dr. MacDonald. Dr. Pressley then spoke as follows:

"I esteem it a great honor and privilege to have the opportunity of serving the South Carolina Medical Association. I do not know of any honor in the State that I would prize more highly than to be elected to an office by the doctors of South Carolina. I love the doctors, and I love the practice of medicine. It has been my privilege during the last few years to be associated with many people in the teaching profession and also among the clergy, and I have made the assertion in the past and shall make it in the future that American doctors, and particularly the doctors of South Carolina represent in their lives the best cross-section of American manhood. I feel that I come from the ranks of what might be called the laborers in medicine. Looking out over this gathering I see the faces of many who are better qualified to serve this Association than I, but I pledge you my best efforts in its behalf. I realize that the next few years will present many problems to organized medicine and that it will take our best brains to formulate plans. I shall do my best to aid Dr. Jennings during the coming year, and I thank you heartily for the honor you have accorded me."

Other officers were elected as follows:

Vice-President—Dr. C. H. Blake, Greenwood.

Secretary-Treasurer-Dr. E. A. Hines, Seneca (re-elected).

Councilors:

First District—Dr. F. G. Cain, Charleston (reelected).

Third District—Dr. J. D. Harrison, Greenwood (re-elected).

Fifth District—Dr. Roderick MacDonald, Rock Hill (re-elected).

Seventh District—Dr. E. T. Kelley, Kingstree (reelected).

Members of Board of Medical Examiners:

Dr. Carl A. West, Camden, for fifth Congressional District, and Dr. N. B. Heyward, Columbia, for Seventh Congressional District, elected to succeed themselves.

Dr. Weston moved that the thanks of the Association be extended to Dr. Des Portes for his unusually efficient administration of its affairs. When this motion was put to vote by the Secretary it was carried with applause. Dr. Des Portes expressed his thanks for this action and also for the cooperation and the hospitality that have been given him during his term of office by the doctors in all parts of the State.

The program having been completed, and no other business appearing, the House of Delegates adjourned sine die.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. T. H. Martin January 27, 1939 ABSTRACT NO. 383 (42281).

Student Charles Presenting.

Admitted Aug. 30, 1937; died Sept. 2, 1937.

History: The patient was a negro woman, 50 years of age, admitted with the complaint of "pain in stomach." The present illness was of two years duration. At the time of onset, the pain was intermittent and griping in character and was not associated with nausea or vomiting. During the year prior to admission, the pain became more constant, of a dull gnawing character and was associated with vomiting; some gross blood was noted on one occasion. She had been unable to retain anything taken by mouth for several days previous to admission. There had been considerable weight loss during the last year of her illness. The past history furnished no information relevant to the present illness.

Physical: T. 100°. P. 92. R. 24.

The patient was a markedly emaciated negro woman of apparent stated age, critically ill. The skin was dry and inelastic. The pupils reacted to L and A. The head and neck were essentially negative. There was bulging of the lower costal cage on the left. Breath sounds were suppressed and a few

fine rales heard over the left lung base posteriorly. The heart was not enlarged to percussion but the apex impulse was displaced to the left. Rate 92, rhythm regular and no murmurs were heard. B.P. 130/100. Examination of the abdomen revealed a large firm mass in the epigastrium most prominent toward the left hypochondriac region. The mass was dull to percussion and tender on palpation. The musculature, in general, was atrophic. The extremities were, otherwise, not remarkable. The reflexes were physiological.

Laboratory:

Urinalysis (8-31-37) Voided specimen was of a yellow color, cloudy in appearance and showed albumin plus with an occasional pus and red blood cell.

Blood 8-31-37

Hb 53 %

RBC 3,210,000

WBC 10,900

Polys 76 %

Lymphs 24 %

Serology

Kolmer—4 plus Kline—4 plus Gastric Analysis

> No free HC1 Greyish-green in color.

Foul odor.

No gross blood.

Few rbc on microscopic.

Course: The patient was unable to retain any nourishment given by mouth and complained of abdominal pain. The stools were observed to be watery in character, of a dark reddish-brown color and malodorous. On 9-2-37, the patient vomited a large amount of bright red blood, went into shock and expired soon afterward.

Dr. Kredel: (preciding) Mr. Williams will you open the discussion?

Student Williams: With a history of intermittent abdominal pain gradually becoming more constant and associated with vomiting and hematemesis on one occasion, it seems likely that the patient's symptoms were directly referable to some lesion in the upper gastro-intestinal tract. The weight loss also occurs frequently with an intestinal disturbance which interferes with nutrition. A large mass was also palpated in the left hypochondriac region and was apparently flat to percussion. I would think first of a tumor mass occurring within the wall of the stomach. Gastric analysis showed no free hydroch'oric acid which is commonly noted in carcinoma of the stomach. No mention is made as to whether this was confirmed on subsequent examination. The patient's secondary anemia could also be explained by bleeding or ulceration of gastric carcinoma. It is also possible with the positive serology as this patient had, that she had a syphilitic lesion in the stomach wall. It would seem unusual, however, that a gumma of the stomach wall would reach such proportions as to form a large mass without having other evidence of the disease elsewhere in the body. In my opinion this is most likely a carcinoma of the stomach.

Dr. Kredel: Mr. Agnew, do you agree with what has been said?

Student Agnew: In view of the physical findings and laboratory examinations my first diagnosis would be a neoplasm of the stomach. However, an ulcer might give almost the same symptoms although the pain is usually more periodic and associated with meals and with hypersecretion of hydrochloric acid. It was not definitely determined that the mass palpated was in the stomach wall. Similar symptoms could be produced by something invading the stomach from without. There were occasional pus and red blood cells in the urine and a one plus albumin. A large kidney tumor would account for the mass and the urinary findings. A tumor of the pancreas will also cause obstructive symptoms and vomiting by direct compression of the duodenal wall. It it hardly likely though that a tumor of this organ would grow to such a large size. In addition these tumors almost always occur in the head and in this case there was no jaundice. Essentially I agree with what Mr. Williams has said.

Dr. Kredel: Miss McSwain, do you think this patient may have had Banti's disease?

Student McSwain: A large spleen of Banti's disease would account for a mass in the upper quadrant. The blood picture is not consistent with that of Banti's disease. These patients usually have a leucopenia and a marked secondary anemia, which is probably secondary to ruptured esophageal varices caused by the associated liver cirrhosis.

Dr. Kredel: Mr. B. S. Smith, what do you think are the possibilities of Banti's disease?

Student Smith: Banti's disease is not likely to give rise to its initial symptoms in a patient 50 years of age, but is most often found in young adults. The blood picture, as Miss McSwain mentioned, does not fit in with that usually noticed in this disease.

Dr. Kredel: Mr. Lipman, can you add anything to the discussion?

Student Lipman: I think the absence of free hydrochloric acid is an important finding in the diagnosis of gastric carcinoma, particularly when associated with a large abdominal mass and loss of weight.

Dr. Kredel: Is it usual for a patient to have a large gastric hemorrhage from a carcinoma?

Student Lipman: As far as I know gastric hemorrhage is a common finding in carcinoma of the stomach.

Dr. Kredel: No. While hemorrhages do occur in gastric carcinoma it is more common to have a massive hemorrhage from esophageal varix. Such a condition commonly occurs with advanced liver cirrhosis when there is compensatory hypertrophy of the veins about the cardia of the esophagus. The physical examination does not throw much light on the nature of this abdominal mass. It states that the mass is dull to percussion, which merely signifies that it is not caused by a hollow viscus. Until we know more about the characteristics of this tumor it will be difficult to say whether it was produced by something within the stomach wall or in an adjacent structure encroaching upon the stomach. Apparently no X-ray examination was made. Neither can I explain a connection between gastric carcinoma and the presence of watery stools unless there is an associated lesion elsewhere in the tract. The fact that the patient had complained of gastric symptoms over a period of two years would not speak against the diagnosis of a malignant neoplasm. It is frequently noted that these tumors may occupy a silent area of the stomach for six months or more without causing appreciable symptoms. Obviously a tumor encroaching upon the lower end of the esophagus or at the pylorus would be noted earlier because of obstruction.

Dr. Prioleau: I have not arrived at a definite diagnosis yet because all the symptoms are not explained by the presence of a single lesion. However, I did think of a carcinoma or tumor mass of the transverse colon which may give rise to gastric symptoms by pressure or infiltration of the stomach wall and at the same time cause the diarrhea. I

would not place too much stress on the finding of an occasional red blood cell in the urine because this was apparently not a catheterized specimen.

Dr. Lynch: If all aneurysms pulsated the diagnosis of this case would have been easier. This mass was caused by a large aneurysm, which had eroded the bodies of dorsal vertebrae, in the region of the stomach and eventually penetrated through the gastric wall giving rise to a fatal hemorrhage. I believe the erosion of the bone might well explain the intermittent pains and gnawing sensations that the patient complained of. Too much emphasis has been placed upon the finding of no free hyprochloric acid in a gastric analysis. Only one analysis was made and this was done with alcohol and not with histamin. I think the significance would only be important in corroboration of other important localizing signs of intra-gastric disease. Absent free

hydrochloric acid has been noted in the older age groups. Also it has been noted when no lesions other than chronic gastritis were present. The presence of a positive Wassermann is so common in Negro patients that it is not necessarily presumptive of aneurysmal changes of the aorta but it should put one on guard. A good number of saccular aneurysms also show organization of large clots in their wall and therefore not necessarily give rise to appreciable expansible pulsations.

Dr. Lynch then demonstrated the origin of the aneurysm just above the diaphragm and pointed out how it had progressed downward through the diaphragm and eroded through the stomach wall. The ascending limb and arch of the aorta were not involved in the aneurysmal process. No lesion was demonstrable explaining the presence of the diarrhea.

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BOOK REVIEWS

PRACTICE OF ALLERGY: By Warren T. Vaughan, M. D., Richmond, Virginia. Three Hundred Thirty Eight Illustrations. Price \$11.50. The C. V. Mosby Company, Saint Louis, 1939.

This is an exhaustive treatise on a subject of ever increasing interest and of protean manifestations. The author well says that the subject covers to a large extent the field of medicine. The volume opens with historical comments and portraits of the poincer. investigators of allergic manifestations. It is noted that the term allergy was suggested by Pirquet in 1906. It is noted that John Bostock of Guys Hospital, London, first described asthma in 1819. The studies on anaphylaxis are worthy of careful consideration. The author discusses heredity and agrees that there is an hereditary factor in allergy. One of the important sections of the book is the chapter on Discussion with the Patient or the history of the illness. This chapter alone is perhaps worth the price of the book. Of course the entire subject of foods is an extensive presentation.

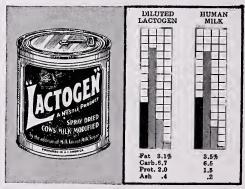
Many physicians find serum disease frequently puzzling. The author covers this subject in an admirable way. The chapter on Pharmacology of Allergy is illuminating and of great practical value. This chapter includes a section on Vitamin Information for Use in Diet Prescriptions. The book is a volume of one thousand and eighty two pages with an extraordinary number of illustrations. We commend the book not only to the general practitioner but to the specialist in many branches of medicine.

GONORRHEA IN THE MALE AND FEMALE: Third Edition. By P. S. Pelouze, M. S., Assistant Professor of Urology, University of Pennsylvania; Consulting Urologist to Delaware County Hospital; Special Consultant to United States Public Health Service. Thoroughly revised. 489 pages with 144 illustrations. Philadelphia and London, W. B. Saunders Company, 1939. Cloth. \$6.00 net.

The campaign for the control of venereal diseases has stimulated renewed interest in this phase of the practice of medicine on the part of the medical profession. The recent publicity about sulfanilamide has also focussed, not only the attention of the doctor, but the public on gonorrhea in particular. Regardless of all of this excitement scientific medicine must not deviate from its mission of seeking the truth in all these matters. The author has done much in this volume to keep this view point in the fore-front. It is recognized that sulfanilamide is a significant contribution as a therapeutic agent in the treatment of gonorrhea but the author urges a conservative estimate of this remedy or its allied drugs until further experience is at hand. The book is

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highly creditable and the whole subject has been brought up to date in this third edition.

SURGICAL TREATMENT OF HAND AND FOREARM INFECTIONS: By A. C. J. Brickel, A. B., M. D., Departments of Anatomy and Surgery Western Reserve University. With 166 Text Illustrations and 35 Plates Including 10 in Color. Price \$7.50. St. Louis, The C. V. Mosby Company, 1939.

This book is indeed a classic and compares very favorably with the great pointer work of Kanavel. Of course no one can understand clearly the basic principles involved in the treatment of hand and fore-arm infections without a profound knowledge of the anatomy of the parts. In this presentation the author and his co-workers have presented some unusually fine plates, numbering some fourteen. In addition there are numerous other illustrations all through the book, particularly of pathological entities and their treatment. Industrial surgery is now a great specialty in the United States but even so many thousands of general practitioners are called upon to treat these infections in their daily practice. The book can be recommended for their guidance most unreservedly.

HEALTH OFFICERS' MANUAL: By J. C. Geiger. M. D., Dr., P. H., Sc. D., LL. D., Director, Department of Public Health, City and County of San Francisco, California. 148 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$1.50 net.

This is a rather brief resume of the field it is intended to cover but it is clearly presented and should prove to be a valuable desk companion for anyone having to do with preventive medicine activities. It is a ready reference book and contains a great deal of important information.

PERSONAL AND COMMUNITY HEALTH: By C. E. Turner, A. M., ScD., Dr. P. H., Profession of Biology and Public Health in the Massachusetts Institute of Technology; Formerly Associate Professor of Hygiene in the Tufts College Medical and Dental Schools. Fifth Edition. St. Louis, the C. V. Mosby Company, 1939.

This book has been used by a great many schools and colleges as a text book for instructing their pupils in the needs and requirements of personal and community health. The fact that it has gone through five editions is proof of its value. It is not only serviceable as a text book but it is interesting and worthwhile reading material for the individual. The book opens up with a chapter on The Field of Hygiene, its importance, boundaries and chief subdivisions. Some of the other chapters which have been discussed in public health literature but to which the latest information has been added are Nutrition; Oral Hygiene; Hygiene of the Nervous System; Heredity and Health; Three Great Plagues; Maternal and Child Hygiene; School Hygiene; Control of Communicable Diseases and Industrial Hygiene. Anyone who is interested in improving the health conditions of their community or their own health will do well to read this volume.



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Acute Intussusception with Intermittent Spontaneous Reduction and Recurrence*

ROWLAND F. ZEIGLER, JR., M. D., SENECA, S. C.

Although spontaneous reduction of an intussusception is probably not uncommon, and recurrences of intussusception following operative reduction are comparatively frequent, I have been unable to find any report in the literature of a case in which an acute intussusception reduced itself and then recurred at frequent intervals over a period of successive days. For that reason this case is reported.

Report of Case

S. W., a Negro boy, aged three years, was in good health until two days before admission to the hospital, when he became nauseated and vomited. His bowels did not move that day, although his elimination had been normal up to that time. The next day, the patient cried incessantly with "pains in my belly," and vomiting and obstipation persisted. There was no passage of bloody mucus from the bowel.

Examination on his admission to The Mc-Leod Infirmary showed a fairly well developed colored boy who appeared to be acutely ill. He was dehydrated and gave evidence of being in considerable pain. The temperature was 99° F. rectally, and the pulse rate 80 with regular rhythm. The skin was dry, the eyes sunken, and the breath foul. The abdomen was soft, flat, and quiet, and presented a

visible mass lying transversely across the epigastrium. This mass was 8 cm. long, firm, sausage-shaped, and slightly movable. The patient complained of abdominal pain, and appeared to be suffering. Both thighs were flexed on the abdomen. The rest of the general examination gave negative results.

A tentative diagnosis of acute intussusception was made. Physiological saline solution was administered by hypodermoclysis to re-Colonic irrigations were place lost fluids. started in an effort to relieve the obstruction. (Not infrequently in this community, a similar clinical picture is seen resulting from intestinal blockage by a mass of Ascaris Lumbricoides.) The first irrigation returned with a small amount of fecal matter, and subsequent irrigations were even more effectual. Vomiting subsided and he retained warm clear liquids orally. On the day after hospital admission, the abdomen remained soft and the mass seemed smaller. Frequent doses of olive oil were then administered orally with the possibility of a fecal impaction in mind. The epigastric mass completely disappeared on the morning of his second day, the bowels remained open, and he enjoyed liquid nourishment. However, the pains continued intermittently. Later in the day, the mass appeared as before. During the following six days, the mass continued to disappear and reappear, often five or six times in a day. Pains were usually most severe

^{*}From the Department of Surgery, The McLeod Infirmary, Florence, S. C. Read before the Oconee County Medical Society, Seneca, S. C., July 18, 1939.

during its presence. Beginning on the third day, the patient had daily fever, reaching a peak of 102° F. on his sixth day. The leukocyte count varied from 18,950 (47% poly, 41% lymph, 12% monocytes) to 14,700 (58% poly., 37% lymph., 4% mon., 1% eosinophiles). The urine was negative, and a fecal examination was negative for parasites and ova. On his fourth hospital day, a small amount of macroscopic blood was seen in the stool, but not thereafter. The clinical picture remained the same with a persistence of daily afternoon fever, intermittent colicky pains, and the recurring epigastric mass. Likewise, the abdomen remained soft, the bowels were emptying regularly (without enemata), and a soft bland diet was being well tolerated.

Eight days after hospital admission, a laparotomy was performed under general anesthesia. Before the anesthetic was administered, the mass could not be felt, but it became perceptible to the eye and palpating hand soon after the anesthetic was started. On opening the abdomen, a complete colic intussusception was found. Thirteen inches of colon, beginning with the cecum, was telescoped into the midportion of the transverse colon. It was easily reduced. The intussusceptum was in excellent condition except for slight induration and irritation about the vermiform appendix and its base; there was also one large edematous appendix epiploica. on the cecum. The cecum and ascending colon were very mobile and could easily be lifted from the abdominal cavity. The appendix was removed and cecopexy performed, suturing the cecum to the anterior abdominal wall with cotton thread. The patient stood the operation well, and had an uneventful convalenscence, taking liquids on his first post-operative day, and having normal bowel movements three days after the operation. He had some pain the first few days, but there was no return of any mass and after taking a soft diet he remained entirely comfortable. This patient was discharged from the hospital in good condition twenty-one days after admission, thirteen days after the operation.

Comment

Intussusception is generally classified under

the headings of acute, subacute, chronic and recurrent.

In the acute form, a healthy infant suddenly cries out in extreme pain, "doubles up," turns pale, and soon vomits. Paroxysms last for a minute or two, subside, and recur at short intervals. Blood and mucus appear in the stools, in about 88% of the cases, within twenty-four hours, and physical examination reveals the presence of an abdominal mass in about 84% of cases. (1)

In subacute intussusception the symptoms last from five to fourteen days, and the onset is less severe. These cases are characterized by intermittent attacks of less severe colicky pain associated with vomiting. Constipation and small mucus stools are usually present. Palpation of the abdomen discloses a tumor mass.

The chronic type of intussusception is one in which the symptoms last for more than two weeks. In this form the patient usually has pain and vomits, with subsequent intermittent colicky pain. Blood is usually absent from the stool. As time goes on the symptoms become less severe, vomiting occurs only at longer intervals, constipation is persistent, and the patient loses weight. On careful examination one can usually palpate a tumor mass varying in consistency from moment to moment. In these cases an incomplete intestinal obstruction probably exists with a maintenance of the blood supply to the intussusceptum.

Recurrent intussusception is usually postoperative and due to a failure of removal of the etiological factor, although Ladd and Gross(1) found no mechanical cause in the seven recurrent cases of their series. A recurrence does not necessarily take place in the same location as does the original intussusception.

It is obvious that the case which I have reported does not fall into any of these groups. Ladd and Gross(1) state that the shortest reported interval between an intussusception and its recurrence was thirty hours, while in this case there were apparently several recurrences a day. Cases of chronic intussusception are somewhat similar to this one in symptomatology, but in the chronic type the

mass remains constant, varying perhaps in consistency or mobility, but not completely disappearing.

In our case, the intussusceptum never reached a state of engorgement sufficient to cause the constant appearance of blood, although more than a foot of colon was found to be intussuscepted. The healthy condition of the involved gut after operative reduction showed that the condition could not have been of long duration, and that the intussusception had frequently relieved itself. The extremely mobile cecum was undoubtedly the etiological factor. Acute intussusception with intermittent spontaneous reduction and recurrence appears to be a suitable term for this case since it does not fall into any of the types usually given.

CONCLUSION

A case of acute intussusception with intermittent spontaneous reduction and recurrence is reported.

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A Review of Cesarean Sections in Greenville County

R. M. Dacus, Jr., M. D., Greenville, S. C.

The cases reviewed in this paper are 210 consecutive cesarean sections performed in Greenville county during the past five years from January, 1934, to January, 1939. There were a total of 11,321 deliveries registered during this period, of which 3,473 were hospital deliveries; the incidence of cesarean sections among hospital cases being 6% and the incidence for all deliveries in the county 1.8%. This distinction is made because only 30% of all deliveries occurred in the hospital, while all sections were hospital deliveries.

Operators

Sixteen different doctors operated upon at least one of the 210 sections. 151, or 72%, were done by members of the Obstetrical staff of the hospitals, and 59, or 28%, were done by members of the Surgical or Courtesy staff. 49 cases, or 23%, was the greatest number operated upon by one man, while there were

Read before the South Carolina Medical Association, Spartanburg, S. C., April 13, 1939.

four doctors who operated upon only one case each. 155, or 74%, were done on private patients, and 55, or 26%, were on service or charity patients. Only 19, or 9%, of the 210 sections were on negro patients.

Type of Operation

	No.	%
Laparotrachelotomy	119	56.6%
Classical	85	40 %
Porro	6	2.8%
Section & Sterilization _	70	33.3%

Maternal Mortality

There were a total of 12 maternal deaths among the 210 sections, giving a maternal mortality of 5.7%. The causes of death were as follows:

Hemorrhage—three cases. One was a postpartum hemorrhage evidently the result of uterine relaxation. Another was due to hemorrhage from the placental attachment at the time of operation for placenta previa. The third case was due to hemorrhage prior to operation because of abruptio placentae. The patient died three hours after operation from hemorrhage and shock because a donor for blood transfusion could not be obtained.

Anuria and Uremia—three cases. All three cases were nephritic toxemia cases with impaired renal function. Two of the three were complicated by abruptio placentae. In each case there was renal failure with acute urinary suppression, rising blood N. P. N., coma, and death.

Peritonitis—two cases. In one case there was a myomectomy performed at the time of operation. The other case had been in labor with the membranes ruptured for two days and had had several vaginal examinations.

Eclampsia—two cases. One case died within 48 hours after operation, the operation being performed to control convulsions. The other case was done several days after convulsions were controlled. The patient developed a post-operative psychosis and an evisceration through the abdominal incision. She died shortly after resuture of the incision.

Pulmonary Embolus—one case. Patient died suddenly on the thirteenth postoperative day when allowed out of bed.

Cerebral Hemorrhage—one case. A case of nephritic toxemia with marked hypertension developed cerebral hemorrhage after operation.

Morbidity

The standard as advocated by the American Committee on Maternal Welfare was used in calculating the morbidity. Any patient with a temperature of 100.4 degrees F. or over recorded on any two days after the first 24 hours postpartum, oral temperature readings being made at least four times daily, is regarded as febrile. Of the 210 sections 127 were morbid, giving a rate of 60%. Of the 119 low flap sections 62 were morbid (52%), and of the 85 classical sections 59 were morbid (69%).

Fetal Mortality

There were 20 stillbirths, and 23 infants died in the neonatal period, a total fetal mortality of 20%. Many of the fetal deaths were due to prematurity, toxemia, placenta previa, and abruptio placentae.

Indications for Operation

In many cases there were several indications for operation, so that it was necessary to classify them according to the major reason for section. The indications are listed under the following six groups:

2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	
1. Dysproportion and Dystocia	42.8%
Contracted pelvis	
Cephalo-pelvic dysproportion	
Soft tissue dystocia	
Tumors (fibroid or ovarian cyst) .	8
Abnormal position (breech,	
transverse)	15
Deformed bony pelvis	
Deformed bony pervis	0
Total	90
2. Hemorrhage	
Placenta previa	
Abruptio placentae	18
m .	
Total	
3. Toxemia	,
Eclampsia	
Pre-eclampsia	18
Nephritic toxemia	16
•	
Total	44
4. Previous Section	
Total	
5. Medical Indications	
Cardiac	
Tuberculosis	
Pyelitis	
Hemiplegia	1
Ante-natal fever	1
Total	10
6. Miscellaneous Group	
Hydronephrosis	1
Varix of broad ligament	
Fetal embarrassment after externa	
version	1
tro	
Total	3
Type of Anesthesia	
No.	%
	/ -

Local (Novocaine) _____ 65____30.9%

Ether _____54.7%

Nitrous Oxide & Oxygen ___ 29____13.8%

Spinal _____ 1___ 0.4%

Mortality

Relation of Type of Anesthesia to Morbidity

In order to eliminate such factors as duration of labor, ruptured membranes, and vaginal examinations, only elective cases were studied to determine any possible relationship between the type of anesthesia and morbidity.

			Percentage
	No.	Morbid	Morbid
General	72	41	56.9%
Local	37	15	40 %

While the percentage of morbidity is not markedly lower when done under novocaine anesthesia, clinically these cases seem to do better postoperatively, having less nausea and vomiting, less abdominal distension, and demanding a diet sooner than cases in which inhalation anesthesia is employed. It is generally believed that pregnant women are not good risks for spinal anesthesia. Many deaths and near deaths have been reported after its use.

Relation of Type of Operation to Morbidity

Most obstetricians believe that both the morbidity and mortality rates are lower when the low-flap type of operation is employed than when the classical type of operation is used. In this series of elective sections the morbidity is twice as frequent for classical sections as it is for the low-flap type of operations. Likewise the mortality is less.

Morbidity in Elective Sections

			Percent
Tot	al No.	Morbid	Morbid
Classical	47	32	68%
Low Flap	57	19	33%
_			

Comparison of Mortality Rate for Elective and Non-elective Sections

The following tables show that the mortality rate is less when sections are done electively. They also show that the mortality rate is less for the low-flap type of operation than for the classical type.

All Cases, Elective and Non-elective

]	Mortality
	Total No.	Deaths	Percent
Low-Flap	119	6	5%
Classical	85	6	7%
Porro	. _ 6	0	·
Total	210	12	5.7%

Elective Cases

			Mortality
	Total No.	Deaths	Percent
Low-Flap	57	1	1.7%
Classical	47	3	6.3%
Porro	4	0	
Total	108	4	37%

Comparison With Other Hospitals

The following tables compare the incidence of cesarean section, the maternal mortality, and fetal mortality of this series with large series of cases reported from other parts of the country.

Place	Incidence	Rate
St. Luke's Hospital		
Cleveland, O	1:44	7.15%
Houston, Tex	1:36	14.4 %
Jewish Hospital,		
Brooklyn, N. Y	1:36	2.9 %
Boston Lying-in		
Hospital	1:35	3.1 %
Boston City Hospital	1:29	3.4 %
New York Woman's		
Hospital	1:22	2.9 %
Chicago Lying-in		
Hospital	1:18	0.8 %
Greenville, S. C	1:16	5.7 %
(Quoted by Barrett)		

Fetal Mortality

	Still-	Neonatal	Fetal
Place	births	Deaths	Mortality
Chicago Lyin	ig-in Hospit	al	
(1,000 case	es) _24	43	6.7%
Jewish Hosp	ital, Brookly	n	
(380 cases	s)10	11	5.5%
Greenville, S	. C.		·
(210 cases	s)20	23	20%
	SUMMA	ARY	

During the past five years 210 of the 3,473 hospital deliveries in Greenville county were by cesarean section, an incidence of 6%. There were 12 maternal deaths and 43 infant deaths with a maternal mortality of 5.7% and a fetal mortality of 20%.

Compared with other hospitals in different parts of the country the incidence of cesarean section for Greenville county is high and the fetal mortality very high. The maternal mortality is average.

Approximately three fourths of the sections in Greenville county were done on private patients. Only 9% were Negroes.

Over half of the sections were of the low-flap type, 56%.

In this series of cases the maternal mortality and morbidity were less for the low-flap type operation than for the classical type. Likewise the morbidity was less when the operation was done under local anesthesia than when inhalation anesthesia was employed.

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DISCUSSION

Dr. J. Decherd Guess, Greenville:

Before taking up the discussion as I have prepared it I want to call your attention to one thing that I think needs to be stressed while it is in your mind. Thirty-three per cent of these cases had associated with the cesarean section sterilization. The writer did not state what proportion of that particular thirty-three per cent of the cases were done primarily for the purpose of sterilization, with therapeutic abortion a secondary procedure. There was a considerable proportion of those cases that were of this type, that is, toxemic cases where therapeutic abortion or therapeutic early labor, if you prefer, had to be done; and they were handled by the method of hysterotomy and tubal ligation.

(Dr. Guess then read his prepared discussion.) Studies of this nature are interesting and helpful. They reveal at times rather startling facts and trends.

Some things are wrong with the operation of cesarean section as a therapeutic measure, and these tables which have been shown suggest some of them.

In 60 cases the chief indication for section was cephalopelvic disproportion. But cephalopelvic disproportion unless quite marked is extremely difficult to diagnose, and in many of these cases, it appears that there was included in the chart no supporting evidence for the clinical impression.

Seventy-four per cent of the cases in this series were private and only 9 per cent were negroes. It is reasonable to believe that cephalopelvic dis-

proportion is so preponderantly a condition found in whites? It is not more reasonable to believe that in negroes there was not so keenly felt the urge to operate, and in consequence they were allowed adequate test of labor with ultimate engagement, descent, and delivery from below?

There were fifteen cases when the indications were stated to be breech or transverse presentations. This is a rare and questionable indication for section.

The mortality was just under six per cent. This is a fairly average figure, and is a fair expression of the mortality in the average hospital, where the operation is performed by an average group of men.

But this figure by more careful selection of cases could have been considerably lower in Greenville. Two cases died from peritonitis who had sections done after vaginal examinations and after membranes had been ruptured several hours. Section was probably not a suitable operation, when followed by hysterectomy in these cases.

One eclamptic was subjected to section in order to attempt to control the convulsions. This is generally recognized as unwise treatment.

There are, perhaps, two other factors in determining the mortality. The mortality in this series was definitely higher in the cases in which classical or high section was done than in the transcervical group. It seems reasonable to suppose that the resultant mortality would have been lower had all the cases been operated upon using the transcervical technique with equally as good selection and skill as those in the series in which this latter technique was used. Further mortality and morbidity were lower in these cases when local infiltration anesthesia was used than in the group who received inhalation anesthesia.

One final word with regard to the infant mortality, which reached the startling figure of 20 per cent. A relatively large group of these infants should be segregated from the entire group. In order to limit hospital days in charity patients who were desperately in need of both therapeutic abortion and sterilization, and who would not be granted a subsequent admission for tubal sterilization, hysterotomy and tubal sterilization has been resorted to in recent months in many of these cases. Most of these infants were either previable or just barely viable, and the loss was no more than was expected. It has been felt by some of us that this method is as safe as abortion from below followed within a few hours by laparotomy and tubal sterilization. The cases were operated on under novocain infiltration anesthesia.

Dr. Roger G. Doughty, Columbia:

Mr. President, I want to make one point. I think so frequently we go out of our way to account for infection in this patient or that patient or the other patient. One of the most common causes of trouble in cesarean section, in my humble opinion, is failure

to remove all of the placenta and membrane from the uterus at the time the section is done. It is also one of the primary causes of hemorrhage. Failure to be gentle, on the part of the surgeon, is another cause of infection. The leaving of dead tissue around the incision and the leaving of ischemic tissue in the uterus produce extremely favorable conditions for the growth of bacteria. I think those two things are two of the outstanding causes of infection in cesarean section. However I do not mean to minimize the danger of vaginal examinations but only to emphasize the need for care in the other directions as well.

Dr. W. C. Hearin, Greenville:

This paper is extremely interesting to me for the reason that Dr. Dacus has reviewed 210 cases with only slight review of some work that I have done. In 1935, I think, I read a paper before this Association reviewing 146 cases of cesarean section done in the Greenville hospitals. I was interested in comparing some of the statistics in the two papers. His covers five years, 210 cases. Mine covered nine years 146 cases. There is an overlapping of one year.

I did notice a few things there on maternal mortality. In this first review, made by me, our maternal mortality was 4.1 per cent. So it does not seem that we have improved on our maternal mortality. Our morbidity for the sections were practically the same—less than one per cent difference in the morbidity on the low section than that given in Dr. Dacus's paper. Our fetal mortality in this other series was also better than in this one. The fetal deaths were 5.9 per cent and the neonatal deaths were about 10 per cent, making a total fetal mortality of 16 per cent against 20 per cent. I think, however, Dr. Dacus explains this very well in his remark that a great many of these cases were done for sterilization and there was little effort made to save the baby, because they were scarcely viable babies, in a number of sections done. I think, however, when we consider the number of sections done we shall all have to admit that we are doing too many sections. In the series in the low flap method the morbidity and mortality were lower. Also, in the cases done with local anesthesia the morbidity and mortality were less than in those done with general anesthesia. I think it is well for all of us to review what we are doing and when we have it before us I think we realize that we are doing sections rather promiscuously. I can say that with good grace because I have done the majority of those sections that have been done. But I can say this in my own behalf; I have done fewer sections as the years have gone by; I have done fewer sections relative to the number of deliveries. I believe that will be true of all of us as the years go by. think we shall do fewer and fewer sections,

Dr. Robert E. Seibels, Columbia:

I think these studies are particularly interesting and helpful. The rules and regulations that we have submitted to hospitals have called for consultation before operative interference with the normal course of labor and an annual report from the hospital showing obstetrical mortality and morbidity. I really believe that requiring consultation "with a competent physician" before cesarean section-not a consultation with an obstetrician; that is not in the rules because we purposely left it out will often throw an entirely different light and prevent the section. Recently, in one of the hospitals which has adopted that rule, there were two patients whose families had been notified that a cesarean section would have to be done and the operating room had been prepared. One patient precipitated and the other had a low forceps.

Cesarean section is a good operation but. as Dr. Dacus has clearly shown, it makes a great difference when you select the patient and select the time to do it rather than just simply operate.

So far as infection goes, I do not agree with Dr. Doughty at all. I believe the average man doing ccsarean sections gets out the greater portion of the placenta and membranes. The infection comes from two places. Either the patient has been examined and the membranes perhaps have been ruptured, or the surgeon failed to cover his nose, thinking the particular strep in his nose are sanctified by the fact that he carries them and they will not do any harm. The nose should be covered just as much so as the mouth. This applies also to the assistant and to the operating room nurses. Dr. Dacus has shown that the infection may be due to air-borne bacteria. If that is true in other operations, it is true in cesarean section, which is a relatively short operation. Just one or two streptococci in these huge uterine sinuses is sufficient to set the house on fire.

We all dread the patient at four, four and half, or five months whose pregnancy has to be interrupted. We know how difficult it is to empty that uterus. That patient often falls into the class that probably should not only not go through this pregnancy but should not go through any more pregnancies. We physicians have been in the habit of telling a woman not to get pregnant again, that she has a bad heart or bad lungs or bad kidneys, or whatever it may be. In a year or two she comes in again pregnant. But if that patient's uterus has been emptied and her tubes ligated something has really been done for her.

I hope none of us are fooled into thinking that when there is infection it is due to something extraneous. Any man who has many of these infections should certainly have a culture made from his nose. In one hospital there were three sections and three deaths from puerperal sepsis.

Dr. Dacus, closing the discussion:

Hysterotomy cases were not included in this series of cesarean sections. All cases were seven months or more. Had the hysterotomy cases been included, the fetal mortality would have been higher.

Dr. Hearin said that the maternal mortality rate

would probably have been lower if all cases had been done by the low-flap method. I should like to remind you of the series of a thousand cases done in the Chicago Lying-in Hospital where the great majority of operations were the transcervical type. This may be the reason that their mortality rate is so much lower than in the other series.

BOOK REVIEWS

PRIESTS OF LUCINA: By Palmer Findley, M. D., F. A. C. S. Cloth. Pp. 421, with 38 illustrations. Boston, Little, Brown and Co., 1939. \$5.00.

Recently, American literature has become flooded with a series of histories of medical practice, some of which have finally become obnoxious by their repetition of subject-matter and style. No such rehash is Dr. Palmer Findley's Priests of Lucina. The book is a history of obstetrics and obstetricians, concisely, completely, and interestingly written, yet long enough to escape the effect of an encyclopaedic group of biographies. It also has the virtue of being genuine; there are no fabricated episodes to illustrate the lives of physicians; the illustrations are largely taken from early textbooks and from the sketches and drawings of Leonardo da Vinci; frequent reference to the extensive bibliography indicates that every attempt has been made to record that which is fact.

The book is divided into two parts; the first is a history of persons who have influenced obstetrics; the second deals with special phases of obstetrical practice. The greatest virtue of the first section is that it accurately and completely records a history of obstetrical practice in America from its beginning to the present. The section on ancient Chinese practice is intensely interesting. The highest achievement of the second part is found in the history of the Caesarean operation. Puerperal fever and Forceps, also discussed in this section, are presented for what they are, all emotional appeal being found in the reader's understanding of their importance and not through a sentimental effort of the author's rhetoric.

Two facts of importance may be said about the book: it is not true that if you have read a history of medicine, you have read *Priests of Lucina*; it is unfortunate that the book was not published earlier, for it merits the name of pioneer and should have been used as a basis for all contemporary medical histories.

L. A. Wilson, M. D.

THE CLINICAL AND EXPERIMENTAL USE OF SULFANILAMIDE, SULFAPYRIDINE AND ALLIED COMPOUNDS: By Perrin H. Long, M. D., Associate Professor of Medicine, the Johns Hopkins University, and Eleanor A. Bliss, Sc.D., Fellow in Medicine, the School of Medicine, the Johns Hopkins University, New York. The Macmillan Company, 1939. Cloth, \$3.50.

Once is a while a book is published that is authoritative. Less often a medical volume is comprehensive without being voluminous. But only rarely is a book so timely that it is essential to all interested in that particular field. Such is the very scientfic but practical exposition which Drs. Long and Bliss have furnished us. While the whole subject of sulfanilamide, etc., is still in its infancy, and changes in practice will undoubtedly be made; yet there are very few doctors who will not profit by study of this book. For even though our enthusiasm may wane, and necessarily and properly, the profession become more cautious; yet these new drugs are here to stay.

R. M. Pollitzer, M. D.

THE JOURNAL

OF THE

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SEPTEMBER, 1939

COMMENTS ON MEDICAL ACTIVITIES FOR THE FALL AND WINTER MONTHS

During the summer the most important public health problem in South Carolina from many points of view has been the infantile paralysis epidemic, at the present time happily on the wane. This has not been a new experience for South Carolina by any means but it has been an important test of the defense forces of the State Medical Association which is the State Board of Health. In all disease epidemics the anxiety of the public for their loved ones, the commercial interests of the State, and the aftermath deserve serious consideration on the part of those entrusted with leadership in such matters. We are fortunate in having a well trained personnel in control of the State Department of Health of South Many of these men and women Carolina. have had the benefit of intensive post graduate courses in our greatest Universities. It is worthy of note that so far as the rank and file of the medical profession of South Carolina is concerned every graduate of the Medical College of the State of South Carolina in recent years has had a course in public health. These men are to be found in every section of The same may be said of the the State. graduates of all other Class A medical schools today to a greater or less degree. In other words the high type of doctor that we have in South Carolina at the present time is conversant with medical emergencies and is able to cooperate intelligently in meeting them. It is a little early to evaluate all of the measures taken to prevent the spread of infantile paralysis in this State but by and large it would appear that the situation has been handled very well indeed and in accordance with the latest available scientific knowledge.

County and District Medical Societies in some sections of the State may be a little lax during the summer about having regular meetings but we are ready now to swing into the usual intensive programs so splendidly put forward during the last year or so. It is worthy of comment that the Columbia County Society Bulletin, the Recorder, has continued to grow in favor throughout the State and beyond as a stimulating periodical for the entire profession. This is true also of Greenville County Society Bulletin and more recently the Bulletin of the Anderson County Hospital. The Journal appreciates very keenly the frequent references to articles appearing in its columns and the loyal support of all of the interests of the State Medical Association on the part of these dynamic publications.

Three events of great significance are ahead

of us. First of all the Piedmont Post Graduate Clinical Assembly at Anderson and to which this issue of the Journal is dedicated. Then the South Wide Tuberculosis Conference to be held in Charleston in October and lastly the great celebration of the one hundred and fiftieth anniversary of the Medical Society of South Carolina (Charleston County) in December.

In the past year or so more South Carolina doctors have met each other at medical meetings than at any other period of the Association's history. This has been due, of course, to the stimulus of the presence of the very large number of visiting speakers of national eminence and the vigorous support of the officers of the State Medical Association and the officers of County and District Medical Societies.

The calendar is too full of approaching events to even mention all of them in one editorial but we feel certain that under the leadership of President Douglas Jennings and his comprehensive three point program medicine in South Carolina is going to more forward to an unusual degree the coming fall and winter.

SOUTHERN TUBERCULOSIS CONFERENCE TO MEET AT CHARLESTON, S. C., OCTOBER 4, 5, 6

The City of Charleston will be host to the Southern Tuberculosis Conference, October 4, 5, 6. On the evening of the first day a banquet will be held at which time Dr. W. Atmar Smith, Charleston, S. C., President of the Conference will make his address. The South Carolina Tuberculosis Association will meet at some stated hour on the opening day. South Carolina doctors with their subjects

appearing on the program are as follows: The Management of Tuberculosis in Relation to Hyper-thyroidism, Dr. George R. Wilkinson, Greenville; The Management of Tuberculosis in Relation to Allergic Diseases, Dr. F. M. Routh, Columbia; Extra Pleural Pneumothorax, Dr. Frank P. Coleman, Columbia; The Radium Hand, Dr. Robert B. Taft, Charleston; So Called Epi-Tuberculosis, Dr. Seaton Sailer, Charleston. The following doctors from South Carolina will open the discussion on important papers: Dr. Leo F. Hall, State Park; Dr. William H. Prioleau, Charleston; Dr. Fred Kredal, Charleston.

On Thursday night, October 5, the session will be presided over by Dr. William H. Moncrief, Colonel U. S. Army, Retired, now Superintendent of the South Carolina Tuberculosis Sanatorium at State Park.

Some of the national leaders of importance appearing on the program are as follows: Dr. Kendall Emerson, Managing Director National Tuberculosis Association, New York; Dr. Everet Cato Drash, Professor Surgery, University of Virginia; Dr. Robert H. White, Tennessee Health Education Coordinator, Nashville, Tennessee; Dr. K. C. Harper, State Health Department, Richmond, Virginia; Dr. Paul P. McCain, Superintendent of the Tuberculosis Sanatorium of North Carolina and Dr. Horton Casparis, Professor of Pediatrics, University of Tennessee.

In addition to a very interesting scientific program social activities have been planned for the entertainment of the guests. It is hoped that a great number of the members of the medical profession in South Carolina will make plans to attend this meeting.

INTERESTING CASE REPORTS FROM ROPER HOSPITAL

For some time a plan has been under way to present to the physicians of South Carolina case reports from the teaching hospital at the Medical College giving in detail the methods pursued in the wards there. It is hoped that this presentation may be of service to the busy doctor in his practice.—Editor.

DOUBLE INTUSSUSCEPTION

A Case Report Presented at the Staff Meeting of Roper Hospital

Eldon B. Fine, M. D., from The Department of Surgery, Roper Hospital, Charleston, S. C.

A one and one-half year old white male was admitted to Roper Hospital April 24, 1939, with chief complaint of frequent bloody stools. One week prior to this, the patient was seen in the Outpatient Department. At that time he had not been well for several days with an upper respiratory infection and apparent spells of colic, accompanied by from six to eight loose whitish stools per day. For the next six days, until admitted, the child vomited frequently and passed occasional bloody stools, some of which contained clots.

At the time of admission he had lost three pounds in weight, was rather thin and weak, obviously dehydrated, and quite restless. Routine physical examination was essentially negative except the abdomen, which was slightly distended and moderately tender to palpation. There was a firm, elongated, sausageshaped mass extending from the right midabdomen toward the left and curving down into the pelvis. The mass could be felt rectally by bimanual examination, but was not in the lumen of the rectum. No active peristalsis could be heard. There were frequent bloody stools without appreciable fecal matter. Urinalysis was negative; the blood count showed 52% hemoglobin, 18,050 white blood cells with 66% polymorphonuclears.

The diagnosis was ileo-caecal intussusception following infectious diarrhea. An unsuccessful attempt at "medical reduction" was made by giving the patient a barium enema and using pressure over the abdomen, the result being observed under the fluoroscope. "The barium enema filled out the rectum and first part of the sigmoid and was completely ob-

structed by a U-shaped filling defect in the middle sigmoid." The patient was operated upon without further delay. Since considerable difficulty in reducing the invaginated portion was anticipated, a left rectus incision was made. Manipulation of the descending colon from below proximally easily reduced it to the hepatic flexure intra-abdominally. The mass was then delivered into the incision and reduction completed. Firm fibro-fibrinous adhesions between intussusceptum and intussuscipiens for the last two centimeters at the ileo-caecal valve required division with scis-There was marked induration of the caecum and moderate edema of involved bowel but no loss of viability or injury to the The appendix was apparently Approximately 18 inches from the ileo-caecal valve, a 10 or 12 centimeter second intussusception was found just distal to a slightly inflamed Meckel's Diverticulum, 3 x 3/4 cm. Following reduction of this second intussusception the diverticulum was removed and the stump inverted by ordinary appendectomy technique.

Postoperatively the patient was given Hartman's solution subcutaneously and one blood transfusion. Food by mouth was withheld for 24 hours. The first postoperative day he had a normal stool. Convalescence was uneventful. He was followed for several weeks in the Outpatient Department and discharged symptom-free.

Although the patient had had an intestinal upset for some time, it was difficult to determine exactly how long the loops had been invaginated. For this reason it was felt that a cautious attempt at non-operative reduction was justified, inasmuch as there was considerable to gain and little to lose by this procedure. Following the surgical reduction the operator considered it inadvisable to remove the innocent appearing appendix because of the edema and discoloration of the caecum in this region,

although the patient's' general condition was so good that appendectomy could otherwise have been done without adding appreciably to the operative risk. It is usually a wise procedure to remove a Meckel's Diverticulum, when feasible, because it can be so easily overlooked later as a source of trouble. In this case the evidence of inflammation grossly, verified by pathologic sections, also warranted removal. No attempt was made at the time of operation to prevent recurrence of the intussusception, because it is generally considered that it rarely occurs. Furthermore, in most cases the bowel wall in the ileo-caecal region is so edematous and friable that anchorage to the posterior or lateral peritoneum is a hazardous procedure.

DISCUSSION

Dr. W. H. Prioleau: Multiple intussusception is not uncommon in animals, but in my experience is rare in human beings, except for the agonal type occasionally seen by the pathologist. Attempted reduction by barium enema does not offer much promise, although

the literature mentions successful cases. Another reason for the routine removal of a Meckel's Diverticulum is that it may be the site of aberrant gastric mucosa and thus subject to peptic ulcer and all of its complications.

Dr. C. W. Evatt: I would like to impress upon the house staff the fact that only three conditions give rise to rhythmic painful contractions in the abdomen—intestinal obstruction, pregnancy, and spider bite.

Dr. M. W. Beach: I saw this case several hours after admission and must say that it certainly didn't uphold Dr. Evatt's remarks. The child was perfectly comfortable and suggested nothing in appearance that would lead one to suspect the condition. I found the mass on routine examination of the abdomen.

Dr. F. E. Kredel: I have seen one case of very early ileo-caecal intussusception reduced by barium enema and am responsible for its attempt in this patient. It did the child no harm, for, as Dr. Beach stated, he was in good general condition. This is the first double intussusception I have operated upon.

OBSTETRICS AND GYNECOLOGY

J. D. GUESS, M.D., GREENVILLE, S. C.

"MENSTRUAL DISORDERS"*

By C. Frederic Fluhmann, B. A., M. D., C. M. A Review

In this monograph of 300 odd pages, Dr. Fluhmann, associate professor of obstetrics and gynecology, Stanford University School of Medicine, writes of the pathology, diagnosis, and treatment of disturbances of menstruation. But he does more than this. The first chapter is an interesting historical review of earlier and more modern concepts of menstruation. This is followed by chapters dealing with the menarche, the characteristics and normal variations of the menstrual cycle and morphologic changes associated with it. These earlier chapters compose about one-third of the book. They are an interesting summary

of information which, although it is not new, is yet compactly and comprehensively presented, and which offers an excellent opportunity both for review and reference.

In introducing a discussion of the menarche, the author very concisely differentiates the meanings of the words puberty, adolesence, menarche, and maturity, and in doing so clears up a confusing and erroneously synonymous use of these terms.

Passing on to a consideration of the physiology of menstruation, he begins this with a chapter headed, "The Comparative Physiology of Menstruation," in which he describes the estrus cycle in lower animals, clarifying the various phases of the cycle, and citing differences in several species. Then menstruation in the monkey is described. Reference is made to the occurrence of anovulatory men-

(Continued on page 233)

^{*}W. B. Saunders Company, Philadelphia, 1939.

Program Piedmont Post Graduate Clinical Assembly Anderson, S. C., September 19, 20, 21, 1939

HISTORICAL NOTES

The Assembly came into being in 1935 following the enthusiastic and highly successful series of obstetric institutes held throughout the State of South Carolina by Dr. J. R. McCord, Professor of Obstetrics, Emory University, Atlanta, under the auspices of the South Carolina Medical Association and the Children's Bureau of the United States. There was a general feeling at that time that post graduate medical education should be extended far beyond the field of obstetrics taking in most of the practical branches of medicine and surgery in which the busy doctor must function in his daily activities.

The institution at Anderson has now been recognized and listed by the Council on Medical Education and Hospitals of the American Medical Association and enters upon its fifth year with the most comprehensive plans yet

enjoyed. The central idea of the Anderson Assembly has been to extend the influence of the Assembly to all of the South Atlantic States by including on the faculty professors from the teaching staffs of all of the medical schools in this area. From the first the attendance reached well beyond the one hundred mark but with the ambitious program outlined this year it is expected that the attendance will reach one hundred and fifty or two hundred. Many new features are added as will be noted in the preliminary announcement herewith.

PROGRAM

Tuesday, September 19, 2:30 P. M.

There has been a strong demand each year on the part of the general practitioners for courses on pediatrics and internal medicine. Opening Exercises—Dr. E. A. Hines, President of the Assembly, Seneca, S. C., presiding.



The Anderson County Hospital and Nurses Home

Welcome Address—Dr. Frank Wrenn, President of the Anderson County Hospital Association.

Welcome Address—Dr. Herbert H. Harris, President of the Anderson County Medical Society.

Incomplete Deficiency Syndromes
Dr. V. P. Sydenstricker, Professor of Medicine, University of Georgia, Medical School, Augusta, Georgia.

Diabetes and the Use of Protamine Insulin Dr. Robert Wilson, Jr., Associate Professor of Medicine, Medical College of the State of South Carolina, Charleston, S. C.

Brucellosis

Dr. Angus Murdoch McBryde, Assistant Professor of Pediatrics, Duke University Medical School, Durham, N. C.

John C. Calhoun Hotel, 7:00 P. M.

Dinner and round table discussion of the afternoon lectures.

Address:

Indications for Performing Therapeutic Abortions and Sterilizing Operations
Dr. Oren Moore, Charlotte, N. C.

Wednesday, Sept. 20, 2:30 P. M.

Pathology is largely the foundation stone of medicine and this year an unusually fine symposium has been provided for.

Dr. J. M. Feder, Pathologist Anderson County Hospital, presiding.

Pathology-Looking Backward 30 Years. Dr. T. R. W. Wilson, Pathologist, Greenville General Hospital, Greenville, S. C.

Ovarian Tumors

Dr. E. R. Pund, Professor of Pathology, University of Georgia School of Medicine, Augusta, Georgia.

Tetanus

Dr. E. B. Saye, Pathologist Spartanburg General Hospital, Spartanburg, S. C.

Avitaminosis

Dr. J. M. Northington, Editor Southern Medicine and Surgery, Charlotte, N. C.

The Effects of Analgesic Drugs on the Blood Dr. Roy K. Kracke, Professor of Pathology, Emory University, Atlanta, Georgia.

Evening Program, 8:00 O'clock

Public Invited Address:

The Modern Conception of Contagious Diseases including Poliomyelitis. Dr. Lloyd Aycock, Assistant Professor of Preventive Medicine and Hygiene, Harvard Medical School, Boston, Massachusetts.

Thursday, Sept. 21, 2:30 P. M.

Annually the Assembly emphasizes one or more special features and this year cancer was selected and some of the most famous teachers in America invited to participate in the program. This part of the program will be sponsored jointly by the Assembly and the South Carolina Division of the Southeastern Surgical Congress.

Symposium on Cancer

Dr. J. R. Young, Chairman of the South Carolina Division of the Southeastern Surgical Congress, Anderson, S. C., presiding.

Some Things We Know About Cancer

Dr. Kenneth M. Lynch, Professor of Pathology, Medical College of the State of South Carolina, Charleston, S. C.

Diagnosis and Curability of Intra-oral Cancer Dr. Hayes E. Martin, Chief Head and Neck Service, Memorial Hospital, New York.

Cancer of the Stomach and Small Bowel Dr. J. Shelton Horsley, Surgeon-in-Chief, St. Elizabeth's Hospital, Richmond, Virginia. Cancer of the Breast

Dr. C. W. Roberts, Chief of the Surgical Service Baptist Hospital, Atlanta, Ga.

John C. Calhoun Hotel, 7:00 P. M.

Annual banquet and addresses by distinguished guests.

Evening Program, 8:30 O'clock

Address:

Cancer of the Colon and Rectum
Dr. J. Shelton Horsley, Surgeon-in-Chief,
St. Elizabeth's Hospital, Richmond, Va.

SPECIAL SCIENTIFIC EXHIBIT Recess Period

Wednesday, September 20

Dr. John Elliot of Salisbury, N. C., will demonstrate the Elliot Technic for Blood Trans-

tusion, Blood Banking and Plasma Collection. All laboratory people are urged to attend this demonstration as Dr. Elliot's work is really revolutionary. All technicians are invited to the Wednesday afternoon session.

GENERAL INFORMATION

The sessions of the Assembly will be held in the auditorium of the new Nurses' Home at the Anderson County Hospital. This auditorium was designed as a teaching unit and is well equipped with every facility needed for the comfort and convenience of the visiting physicians.

Plans are under way for both scientific and commercial exhibits thus adding additional features to the Assembly this year.

It will be observed that provision has been made for round table dinner conferences every evening in order that questions may be answered by the various members of the faculty. These round table sessions will be presided over by distinguished leaders with ample experience at their command.

The entire Assembly has been so organized that many physicians will be able to attend their patients in the morning hours and make the trip to Anderson for the afternoon and evening sessions without much inconvenience.

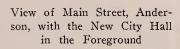
A nominal registration fee will be charged to cover the cost of printing the programs and the annual banquet. The City of Anderson always welcomes their guests with unbounded hospitality and this year will be no exception.

OFFICERS:

- Dr. E. A. Hines____Seneca, S. C. President
- Dr. Jack Parker _____Greenville, S. C. Vice-President
- Dr. David Smith _____Durham, N. C. Vice-President
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ANDERSON, SOUTH CAROLINA

Anderson is a progressive city with a metropolitan population of about 30,000 located in the Piedmont section, at the foothills of the Blue Ridge Mountains. In addition to its being in a progressive agricultural area its resources are supplemented by twenty textile manufacturing plants, a large number of which are operated by hydro-electric power developed within the county.







Another View of Anderson's Main Street with the John C. Calhoun Hotel in the Foreground

The textile district in and around Anderson produces goods to the value of thirty-five million dollars annually, and has a yearly pay roll of more than eight million dollars. As a result Anderson's bank clearings approximate fifty million dollars.

In addition to other activities in Anderson the city is a center of retail and wholesale distribution within a radius of more than thirty miles. There are nearly 300 retail establishments with sales aggregating more than seven and a quarter million dollars. For a community to carry on such extensive business activity there are necessarily adequate transportation Anderson is fortunate in having three railroads, a number of bus and motor truck lines, and its location on important U.S. and state highways makes it easily accessible. Radiating from the city are long stretches of concrete and hard surface roadways, forming a net-work over which moves a vast amount of merchandise.

Historically Anderson contains many points of interest. In 1864 it became necessary to establish in Columbia a branch of the confederate treasury for printing confederate notes. When Sherman started on his destructive march through the South the department was transferred to Anderson. The entire outfit of lithographing stones from which the money was printed, together with the plates and dies, was located in what was once the Johnson Female University. After the war

this property was again used for educational purposes when Col. John Patrick established the Patrick Military Institute. In later years a son-in-law of Col. Patrick bought the property and his beautiful colonial home now stands on this historic spot.

A few miles north of Anderson stands the remains of "White Hall" once a residence, tavern, and store, frequented by former heroes among whom were John C. Calhoun, General Andrew Pickens, and General Robert Anderson. The city of Anderson was named for General Anderson.

Not far from Anderson, at historic old Pendleton, is the oldest Farmers' Society in the United States. This was founded in 1815 and the present building was erected out of material from the old court house of Pendleton District which stood near by. Also in the town of Pendleton is the St. Paul's Episcopal Church yard in which lies Banard E. Bee who gave the name to "Stonewall" Jackson. The family plots of Mrs. John C. Calhoun, the Clemsons, and many others prominent in the state's history may be found in the same cemetery. Space does not permit naming the many other points of historic interest, but a visit to Anderson and surrounding area may include many interesting scenes and places.

While the community abounds in historical treasures it is a modern industrial section, one that has shown continual growth, and it is now in one of its most prosperous eras.

struation, and to that of the "placental sign' or "bleeding of implantation." Finally human menstruation is compared with periodic genital bleeding in the monkey, dog, and guinea-pig, and the difficulties in drawing a perfect analogy is stressed.

After such an introduction a discussion of the physiology of menstruation begins. First the sex harmones are classified, their places of origin mentioned, and the endocrine control of menstruation is described. This discussion is quite up to date. Data has been taken from original reports of research workers; and when there is any inconsistency in their findings or opinions, these are pointed out, and that belief which seems to have most merit is stressed. No statement is dogmatic and where there is doubt, the doubt is given prominence.

This latter attitude is maintained throughout the book. Sometimes it seems to be too much so, for the reader will find himself asking, "What does Fluhmann think about this?" Where the evidence is conflicting or where therapeutic applications of fact or theory vary widely, one would like to know how the author treats his patients. Although no doubt foreign to the purpose of the book, it would add interest and give assistance to many of his readers.

There is an interesting chapter on modern methods of investigation. This begins with the description of a thing so simple as the menstrual calendar. There follows then a discussion of endometrial biopsy. Biologic tests, such as the Aschheim-Zondek pregnancy test and its modifications, and chemical methods of isolating the harmones from the blood and urine are described in considerable detail. With the exception of endometrial biopsy, these various tests require too much equipment, laboratory technicians, and time to be practicable in South Carolina hospitals.

The chapter on the application of the various commercial preparations of the sex harmones in treating menstrual disorders is excellent and would be of great value to any doctor who treats women. The various preparations and their manufacturers are named, the sources of various harmones are stated, and their potency is stated, so that comparisons may be made. One who is familiar with this chapter

would not be puzzled or embarrassed by his inability to place a harmone preparation when he hears it mentioned.

The classification of menstrual disorders and abnormal uterine hemorrhage is detailed and clarifies some confusion of terms that have come into more recent use. Polymenorrhea and hypermenorrhea, oligomenorrhea and hypomenorrhea are examples. The condition, metropathia hemorrhagica, is clearly distinguished, pathologically at least and as accurately as possible clinically from menometrorrhagia.

The treatment of pathologic uterine hemorrhage is discussed. Systemic and pelvic disease as factors in causing hemorrhage is briefly mentioned. Treatment designed to quickly control the hemorrhage is described and finally endocrine therapy is reviewed.

It is surprising that the author in his paragraph on treatment of the secondary anemia which results from uterine hemorrhage advises the administration of some preparation of liver or of stomach, and mentions Blaud's pills as a single example of a suitable preparation of iron. The value of liver in secondary anemia is widely denied, and ferrous sulphate seems to be far superior to ferrous carbonate (Blaud's) in combating this type of anemia.

The author's experience with the use of A. P. L. (antuitrin-S, antophysin, follutein, etc.) in the treatment of uterine hemorrhage is noteworthy. He found this harmone controlled bleeding in about 75 per cent of cases, who had not reached the age of the climacteric and where the bleeding was due to metropathia hemorrhagica (anovulatory bleeding) but was beneficial in less than one-half his cases of menorrhagia in ovulatory cycles.

The treatment of the subject of dysmenorrhea, while no doubt up to date, is the least valuable section of the book. It is interesting because it is modern and presents a discussion of essential, or to use the term preferred by the author, intrinsic, dysmenorrhea, which differs considerably from what it would have been before the isolation and recognition of the various sex harmones. He discusses four harmone causative theories, namely, that dysmenorrhea is caused by a deficiency of estrogenic harmone, or by an excess of estro-

genic harmone, or by a deficiency of corpus luteum harmone, or finally by an excess of this latter harmone, and points out reasons for rejection of each. He mentions the report of Tedstrom and Wilson in which they suggested that dysmenorrhea is a manifestation of a hypoglycemic reaction, but he declines to accept this theory because of discrepancies in results of blood sugar estimations by different workers.

When he takes up the treatment, he opens the discussion with the statement, "The most successful approach to the therapy of intrinsic dysmenorrhea is the institution of suitable general hygienic measures." For relief of pain, he has no new or helpful suggestions. He states that while cervical dilatation and other methods of treatment directed to the cervix frequently do not result in permanent cure, they may yield relief for several months. He advises against uterine packing after cervical dilatation because of fear of infection, and thinks currettment adds nothing of value.

With regard to the use and value of endocrine therapy, the author is neither definite nor very clear. He states that "The general impression is that the results (of endocrine therapy) have not been good. So far as the sex harmones are concerned, the whole subject is still in the experimental stage, and one must await definite conclusions regarding the most effective preparations, methods, and time of administration and dosage." He seems to feel, however, that estrogen has some definite value in giving relief but has no curative value. However, dosage, time of administration, and exact indication are highly experimental.

Of progesterone, he says that its trial is theoretically warranted, but that it is a question of experimentation and will probably provide only temporary and not permanent relief. He has seen no true effect from the giving of A. P. L. substance.

He closes his book with a chapter on the climacteric and the menopause, in which he sums up the modern conception of the cause of the unpleasant symptoms experienced by most women, and discusses the treatment.

This monograph has been reviewed at length, because first the editor wishes to recommend its study to all readers who treat menstrual disorders, for he thinks that it will prove very helpful; at the same time he did not wish to be a cause of disappointment to anyone who might expect to find in it an index of symptoms and remedies. Such an one will have to turn to the various house organs which come to his desk.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

ISSUED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Having noticed that patients who were not receiving collapse surgery left the sanatorium prematurely (signed a release) with far greater frequency than those who did receive collapse, Dr. Kruger of the Hudson County Tuberculosis Hospital attempted to find the reasons for their apparent dissatisfaction. And with a knowledge that a goodly number of patients who sign a release return to the sanatorium later with their lesions much more advanced in extent, he attempted to create a better understanding of every patient so that they would be less inclined to leave the sanatorium before they should.

PHYSICIAN'S RELATIONSHIP TO THE PATIENT

Three reasons account for the self-discharge of patients not receiving collapse surgery: (1) a feeling of well-being, (2) conditions at home requiring their return to work, (3) the patient not sufficiently aware of the importance of bed rest in the treatment of tuberculosis and not educated properly as to the advantages of the sanatorium or hospital.

Many patients admitted to the sanatorium are not acutely ill and except for a slight cough or a sudden hemoptysis were not aware that they were Mass tuberculin testing has discovered many cases of tubercuosis that are entirely asymptomatic. The news is generally received with some degree of shock, especially by those who think of tuberculosis as "consumption" and who are not aware of what can be done therapeutically. The way a person reacts to the knowledge that he has tuberculosis and will have to remain in a sanatorium for a long time depends on two factors: (1) his inherent characteristics, whether his tendency is toward an introvert or extrovert type, and (2) his station in life at the moment and his responsibilities, such as the support of a family.

Emotional Types

Extroversion may be defined as the turning of an interest outward toward some object. Introversion is the contemplation of one's own thoughts and feelings. Tuberculous patients can hardly be rigidly classified into these two groups but in each individual is the tendency to lean toward one or the other and when an individual develops tuberculosis that tendency becomes more manifest. The neurasthenic manifestations encountered in tuberculous patients are not specific but are frequently seen in individuals with any protracted illness. The physician dealing with tuberculous patients must adjust and adapt them to their illness as close to the point of contentment as is possible, instilling within them the hope and certainty that they will soon recover and return to their former usefulness to society. The patient confined to a bed-rest regimen for a number of months must be made to believe in the need for such treatment.

The extrovert is characteristically carefree and unconcerned about his condition. The problem that confronts the physician is to gain the confidence of this patient and to explain the need for prolonged treatment if he is to make satisfactory progress. Occasionally one will encounter a patient who does not adequately appreciate the necessity of intensive treatment. Here one must be frankly outspoken and attempt to show what may happen if he fails to heed the physician's advice. The patient must be made to realize that he is a sick person in spite of his apparent well-being. He must be convinced of the fact that tuberculosis, when discovered early, may be easily controlled, whereas, when the disease is of a more advanced type, it is more difficult to obtain a satisfactory result. In order to obtain the full cooperation of the patient. it is essential that he be advised concerning the development and progress of the disease through the medium of education. The physician in charge must make an indelible impression on his patient.

It is with the introvert that we must use the greatest of discretion. He has kept his troubles to himself, for his best defense has been to keep his troubles hidden. It is this type of individual that should be prevailed upon to share his innermost thoughts with the physician. He must not be allowed to become depressed, for a happy patient with a happy, healthy state of mind is a most desirable asset in fighting a chronic disease such as tuberculosis. On the other hand, the practice of minimizing a patient's lesion, such as diagnosing an infiltrate as a "bronchitis" so as to avoid any "embarrassment" to the patient, is to be condemned. Too often patients are seen who state that their physician, several months prior to admission, told them that they had a "little bronchitis" or a "tiny spot on the lung" and advised only a couple of weeks' rest in bed. However, in a certain few select cases it may be perfectly justifiable to minimize somewhat the extent of the process. Those patients who are apprehensive and worried about themselves must be reassured and convinced that their trouble is not too far advanced and that with time they will recover. An attitude of optimism must be assumed by the doctor and imbued in the patient. The mere mention of the word "cavity"

may cause them to become panicky and apprehensive.

Winning Confidence

When making staff rounds it is best not to discuss the case in front of the patient, except in the form of encouragement. The patient will listen intently and will invariably misinterpret every statement. The physician should devote as much time as possible to obtaining a sympathetic understanding with the patient and discuss at length any problem that may be brought up, no matter how trivial it may seem. He should be encouraged to keep interested in the news of the day. The widespread use of the radio is endorsed; its effects on the well-being of the patients have been so encouraging that in the new Hudson County Tuberculosis Hospital, every bed is supplied with an individual ear-set, so that a patient may have the choice of listening to one of four different programs without in any way interfering with the other patients in the ward.

When pneumothorax is attempted and fails, the patient will become despondent, feeling that his only hope for recovery is lost. To obviate this apparent setback one must explain that pneumothorax is merely an adjunct in the treatment; that the patient will improve with bed rest alone, but that if pneumothorax is successful it will help rest the lung a little more and tend to hasten recovery.

One has to contend with patients wanting to be discharged because they feel they can continue bed rest at home. This is not true. The majority of those who sign a release become careless and soon have to return because of reactivation of the lesion. With this group the physician must stress the

dangers involved, frankly and outspokenly. Citing as an instance an individual, known to the patient, who having refused advice has had to return with an advanced lesion, often helps him to comprehend the significance of his intentions.

What Rest Means

One thing must be emphasized to all tuberculous patients, that rest means not only physical rest but also mental rest. The object of physical rest is to diminish the work of the lungs by diminishing the number and extent of the respiratory excursions. Yet, what good is such physical rest if the patient maintains a state of high nervous tension as seen in the neurasthenic type of individual? It is not infrequently noted that patients with extensive pulmonary involvement who are cheerful and mentally stable show a favorable progress.

The tuberculous person must be shielded from the cares and responsibilities of home and business. Friends and members of the family must be cautioned against bringing any news to the patient which may in any way disturb him. For that reason, sanatorium care for the patient is the desirable thing, whenever feasible, for here the individual is more or less isolated from home influences, which, although well meant, are not always to the patient's best interests and, in addition, he is under constant supervision with the knowledge that he is in the same hospital with a number of others similarly afflicted and all having the same goal. Also, from a public health standpoint, his chances of spreading his infection are minimized.

The Relation of the Physician to the Tuberculous Patient, Alfred L. Kruger, M. D., Jour. of Amer. Med. Assn., Vol. 112, No. 21, May 27, 1939.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

February 17, 1939

Case of Dr. W. H. Kelly

ABSTRACT NO. 386 (53110)

Student Kinder presenting.

Admitted Nov. 7, 1938; died Dec. 30, 1938.

History: The patient, a colored man of 24 years of age was admitted complaining of "pain in the neck and back." His illness dated from about two months before, at which time he began to have constant severe pain in both knee and hip joints. These became gradually less severe and cleared up about one month before admission. He then began to suffer severe pain which radiated along the cervical and thoracic spine; he associated its onset with stooping and stated that the thoracic pain radiated to either side. There had been moderate

weight loss during this time. Past history was ir-

Physical: The patient was a fairly well developed and nourished colored man who held his neck and spine rigid and any attempt to move the head elicited pain. The pupils reacted satisfactorily. There was limitation of expansion of the chest bilaterally and prominence of the lower anterio-lateral chest. Coarse rales were heard over the right lung base posteriorly and a friction rub was palpated and heard on auscultation over the left chest anteriorly in the 4th i. c. s. 6 cm from the midline. The heart was not enlarged to percussion. Rate 110, rhythm regular and no murmurs were heard. B. P. 128/82. The abdomen was rounded and tympanitic. The liver edge was just palpable below the costal margin; no other organs or masses were felt. The extremities were not remarkable. The knee jerks were slightly

hyperactive and there was a positive Kernig's sign. Laboratory:

Urine: Albumen a constant finding; hyaline and granular casts found occasionally. Bence-Jones protein positive.

Blood:

Hb 9.5 gm.

RBC 3,849,000

WBC 13,000

Polys 80%

Lymphs 13%

L. Monos. 5%

Basos. 2%

Blood Chemistry:

Urea N 11 mg.%

Serum Calcium 9 mg.%

Serum Phosphorus 3.3 mg. %

Serum Albumen 4.5 gm.

Serum Globulin 4.9 gm.

Serology (blood): Negative.

Sputum: Neg. for tubercle bac.

Manteaux: Four plus.

Spinal Fluid: 11-8-38 Globulin three plus, cells 8/cu.mm.

Spinal Fluid: 11-20-38 Globulin trace, cells 2/cu.

X-ray: Cardiac enlargement, enlarged hilar nodes, round to oval shaped punched out areas of bone destruction in calvarium, ribs, scapula, clavicle, thoracic vertebrae and femora.

Course: Constant febrile course (98-1038) with persistence of symptoms. Gradual downhill course leading to death on 12-30-38.

Dr. Kelly: (presiding) Mr. Lyles, will you open the discussion?

Student Lyles: In a 24 year old patient complaining of pain in neck and back over a relatively short period of time and showing definite punched out areas of bone destruction in the calvaria, ribs, scapula, clavicle and thoracic vertebrae we have to assume that the process is probably of longer duration than the patient's complaints. I believe a multiple myeloma involving the bones mentioned is a likely possibility. A positive Bence-Jones protein, marked enemia and progressive downhill course can all be correlated with this diagnosis. The lung findings are not consistent with myeloma as it rarely metastasized to the lungs. It is possible that a tumor eroding the ribs might involve the pleura and give rise to a friction rub. I think the globulin and the cell count of the spinal fluid can also be explained by the presence of a tumor within the vertebral body. The constant albuminuria and the presence of casts are frequently associated with myeloma. The patient is rather young for this disease but this does not rule it out and it is more often seen after the fourth decade. Intermittent type of pain is rather characteristic of multiple myeloma.

Dr. Kelly: Is the blood chemistry of any significance is multiple myeloma?

Student Lyles: No.

Dr. Kelly: Any other possibilities?

Student Lyles: The lung findings as well as the Manteaux test, loss of weight and night sweats are all suggestive of tuberculosis.

Dr. Kelly: Mr. Watson, do you agree with Mr. Lyles?

Student Watson: I think his first diagnosis the more likely but I would also consider metastatic carcinoma even though it is less likely to occur in a man of his age. Osteitis fibrosa cystica might produce similar disseminated bone lesions but the blood chemistry is not typical of this condition. We could rule out leukemia on his blood findings and bone lesions when present usually are located subperiosteally rather than in the medulla of the bone. I would consider multiple myeloma as the best diagnostic possibility and secondly tuberculosis.

Dr. Kelly: How would you explain the pain and stiffness of the neck?

Student Watson: I think these are due to destructive bone lesions in the vertebrae with irritation of sensory nerve endings.

Dr. Kelly: How would you explain the rales in the base of the lungs?

Student Watson: These are probably due to hypostatic pneumonia as death in these cases is usually caused by some intercurrent infection.

Dr. Kelly: Mr. L. H. King, how can you account for the fever and anemia?

Student King: Fever is usually absent in mycloma but occurring late in the disease it may be due to a lung involvement or some other superimposed infection. The anemia may follow widespread destruction of bone marrow by the tumor processes or it may be on a nutritional basis.

Dr. Kelly: Is the white blood count of any aid in diagnosis?

Student King: This mild leucocytosis could be present in myeloma of tuberculosis but is not diagnostic of either.

Dr. Kelly: (to staff) Is there any further discussion?

Dr. Johnson: I think the presence of a Bence-Jones protein in the urine is apt to be misleading. It is only present in about 65% of cases of multiple myeloma but on the other hand is found in numerous conditions other than myeloma. The positive Manteaux test together with age and enlarged hilar nodes is rather suggestive of tuberculosis.

Dr. Kredel: I think the question of metastatic carcinoma should be considered more seriously. Hypernephromas, thyroid carcinomas and teratomas of the testicle occur in young people and often give rise to widespread bone metastases without any local manifestations.

Dr. W. H. Smith: I think the age of the patient together with his continuous fever, anemia and 4 plus Manteaux reaction is highly significant of tuberculous infection.

Dr. Kelly: We have here a young man with

sharply defined destructive bone lesions involving the medullary cavity of both the cancellous and the long bones, a positive Bence-Jones protein, secondary type of anemia and progressive downhill course, who could be diagnosed as having a multiple myeloma. On the other hand his age, continuous fever, enlarged hilar nodes and strongly positive Maneaux test could readily be compatible with the diagnosis of tuberculosis. It is also possible that he might have had a carcinoma giving rise to bone lesions without symptoms from a primary focus. The diagnosis was finally established by biopsy.

Dr. Lynch: The first biopsy from this patient's rib was small and unsatisfactory but even at that time showed some changes suggestive of tuberculosis. The second specimen consisted of a portion of a rib about 5 cm long which contained one of the typical punched out areas. Microscopic examination revealed many discrete and confluent cascous tubercles crowding out the bone marrow and destroying the cortex. The heart here is the only specimen we have for gross diagnosis. It shows a long standing tuberculous pericarditis and is covered everywhere

with a thick layer of caseous material measuring over 1 cm in thickness in some areas. type lesions noted on biopsy of the rib were found destroying the vertebral bodies in the lumbar region. These formed sinuses penetrating into the Psoas muscles giving rise to large abscesses extending down to the brim of the pelvis. There were also tubercu'ous lesions in the intestine and the nodes in the mediastinum were extensively involved. The bones and lymph nodes appeared to have been involved early and the miliary tuberculosis that we found at autopsy was probably a terminal event following rupture into a blood vessel. I do not think there is any question about the lesion being tuberculous even though special stains from the bone showed no organisms. Several pieces of the node have been injected into a guinea pig and we hope to get substantiating results when the animals are killed.

A microscopic slide was shown and Doctor Lynch demonstrated numerous anatomic tubercles in the destructive lesion of the rib.

WOMAN'S AUXILIARY

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FROM THE PRESIDENT OF THE SOUTH CAROLINA MEDICAL AUXILIARY

THE MEMBERS OF THE AUXILIARY

As your new president, I wish to thank you for the honor which you have bestowed upon me, and I shall endeavor to uphold the auxiliary to its already high standard throughout my term of office.

We are each familiar with our standard outline of work; Student Loan Fund; Hygeia; Public Relations; Jane Todd Crawford Memorial Fund; Historical and Membership.

The Publicity Trophy given by Mrs. T. R. W. Wilson, Greenville, was won by the Columbia Auxiliary. It will again be awarded to the auxiliary whose Publicity chairman submits the best scrap book containing the largest amount of publicity arranged in the neatest way.

The Historical Trophy donated by Mrs. Frank Strait of Rock Hill, was won by the Pickens Auxiliary. This trophy will again be offered to the auxiliary presenting the best activity through out the year as presented by each county auxiliary Historian. This is a perpetual trophy, and must be won three years in succession to be the property of any unit.

The Health prize, \$5.00 in cash, donated by Mrs. C. C. Ariail, Greenville, was won by the Pickens Auxiliary.

This year to continue Health work, I am offering a trophy to the auxiliary having the best Health project or projects. This is also a perpetual trophy, and shall be judged on the membership percentage basis. This will give every auxiliary an even chance. Mrs. P. M. Temples, Spartanburg, your State Program Chairman, and a committee chosen by her, shall decide the winner.

I wish especially to emphasize File work. Keep all your letters, and copies of letters sent out, so that at the end of your term of office, you can pass on your work to your successor, enabling her to "carry on" more efficiently each year. In this way, we enlarge our scope of work.

With a new auxiliary organized (Laurens) we feel encouraged to go on, and hope we shall have many more by the end of our fiscal year. From our National Program Chairman comes this suggestion, invite the President of the Medical Society in your county, and your Advisory Board to meet with you at an early date.

If I can be of any service to you at any time, please write me, and I shall gladly give you any assistance I can.

Now for our slogan, "Progressiveness and Co-operation." With best wishes for a most successful year, I am

Most cordially, Ruth de Saussure Furman Mrs. William B. Furman, Pres., Woman's Auxiliary to the South Carolina Medical Auxiliary

RIDGE MEDICAL AUXILIARY MEETING

The regular meeting of the Ridge Medical Auxiliary was held Monday night, August

21, with Mrs. A. L. Ballenger and Dr. Louise Ballenger. After the devotional and the business program, Miss Florence Hoover rendered Rose Fay, a piano solo. Dr. Louise Ballenger read an interesting paper on Gall and Kidney Stones. During the social hour the hostesses served a delicious salad course with sandwiches and ice tea. The meeting was well attended. The next meeting will be held with the local President, Mrs. W. P. Timmerman and with Mrs. J. D. Waters of Saluda, associate hostess.

SPARTANBURG MEDICAL AUXILIARY NAMES NEW EXECUTIVE BOARD AT JULY MEETING

The Woman's Auxiliary to the Spartanburg County Medical Association met during the month of July at the home of Mrs. P. A. Smith on Boyd Street with Mrs. Smith, Mrs. A. R. Fike and Mrs. Robert Crow as hostesses. Mrs. Robert Dennis Hill as President was in the Chair during the business session and Mrs. J. C. Josey acted as Secretary.

The following Executive Board was appointed to serve during the coming year: Program Chairman, Mrs. Jesse Willson, Mrs. W. R. Esdale; Publicity Chairman, Mrs. I. A. Phifer; Public Relations Chairman, Mrs. W. R. Esdale; Ways and Means Committee, Mrs. W. I. Morehouse, Mrs. R. G. Anderson and Mrs. W. H. Folk; Student Loan Fund Chairman, Mrs. J. C. Josey; Hygeia Chairman, Mrs. Harry Heinitsh; Personnel Chairman, Mrs. J. J. Lindsay; Jane Todd Crawford Fund Chairman, Mrs. J. L. Jefferies; Historical Committee, Mrs. John Fleming and Mrs. D. C. Alford.

Mrs. Ruth Keller read two biographies of great interest, one of the late Dr. H. R. Black and the other one the late Dr. George R. Dean.

At the conclusion of the program the hostesses served refreshments. The tea table was beautifully arranged with pink, blue and white delphinium and was lighted with tall white tapers in crystal holders.

The meetings of the Auxiliary were suspended during the rest of the summer with activities being resumed in September .

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M.D., F.A.C.S., CHARLESTON, S. C.

OPHTHALMOLOGICAL ASPECTS OF PREGNANCY

Dr. M. G. Gordon, E. E. N. & T., July, 1939, p. 157

"Superficially, the realms of the ophthalmologist seem far afield indeed from those of the obstetrician. Deeper evaluation, however, shows more than a slight overlapping between those seemingly divorced specialties. Consideration of the fact that the eye is probably the most accessible as well as the most delicate indicator for noting systemic reactions cannot help but lead to the observation that, since pregnancy certainly does alter body metabolism both physiologically and pathologically, there is no reason why the eye should not be used as an instrument in ascertaining the diagnosis and estimating the prognosis of malfunctioning of pregnancy. The purpose of this paper is to present some of the highlights of the relationship existing between ophthalmology and obstetrics."

Quadrant defects may occur in the visual field (Finlay) due to the physiological enlargement of the hypophysis during pregnancy.

It is manifest that there are many physiological and metabolic changes and often nutritional impairment in the pregnant state. These disorders (de Carle) frequently cause blepharitis, phlyctenular inflammation and disorders of accommodation, manifesting themselves as disturbed vision. Vomiting of pregnancy further impairs the nutritive state of the pregnant woman so that polyneuritis (Winans and Perry) or retinal hemorrhages (Wagener and Weir) may occur. The administration of vitamins may cause the absorption of the hemorrhages even during the continuation of the pregnant state.

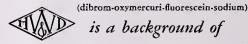
This hyperemesis is apt to be fatal if associated with a retinitis of the albuminuric, spastic type. In any case it is then indicative of a severe grade of toxemia (Stender, Wagener, Tillman). Retinitis gravidarum is

an albuminuric type of retinitis and bears a prognosis that has produced discussion as to its bearing on the mother and on the child.

White advises watching and waiting, and Bergman warns as to dangers to mother and fetus in cases of eclampsia and amaurosis.

Mylium, Wagener and others rightly point out that arterial changes in this condition preceed the retinitis, and exert an effect upon it. There being a "period of safety" before the functional vascular changes become organic. Wagener states that in about 40% organic vascular lesions develope. He feels "that the development of any type of retinitis in a case of hypertensive toxemia of pregnancy is an urgent indication for the termination of pregnancy, not only because of the danger to vision, but also because of the implied certainty of permanent injury to the general vascular

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system. He declares that in cases in which hypertension develops or increases while the patient is under observation, careful watch should be kept for angiospastic lesions of the retinal arterioles either primary or superimposed on previous organic changes, for, if the integrity of the systemic arterioles is to be preserved pregnancy should be terminated if possible while the arteriolar lesions are still in the angiospastic phase, and certainly at the first indication of the onset of retinitis." This is a new idea, though of several years observation, but it deserves careful consideration if one does not want the mother crippled for life with cardio-vascular trouble.

"Mussey states that when the spastic condition of the retinal arterioles is maintained the first ophthalmoscopic appearance of cot-

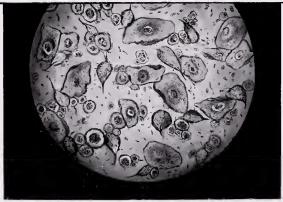
ton-wool exudates and hemorrhages in the retina, indicates danger of permanent systemic arteriolar change." He feels that pregnancy should be terminated promptly.

"Hallum declares that if retinitis occurs before the twenty eighth week of pregnancy there is only about a 25% chance of the patient giving birth to a living baby even if pregnancy is continued to the stage of viability and there is almost 100% chance of permanent vascular-renal injury developing."

Hallum advises against subsequent pregnancies in cases that have had a retinitis of pregnancy. de Carle thinks pregnancy should be immediately terminated if amaurosis developes as it indicates "grave toxemia" with which advice Bergmann, after discussing the symptoms of amauresis, agrees.

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Non-Specific Treatment of Ozena

By George R. Laub, M. D., Columbia, S. C.

This paper is but a short review of experiments of different conservative methods of treatment of ozena which I carried out at Neumann's University Clinic in Vienna, Austria.

Up to the present time it has not been possible to use an etiologic therapy, as we do not know the causes of this disease. There are many different theories explaining the etiology: bacillary infections, hereditary syphilis, disturbances of the development of the nose etc., should be responsible for the genesis. However, I have to confess that we do not know the real causes. Therefore we tried different non-specific treatment.

Before describing our experiments I want to explain the exact diagnosis of ozena excluding the secondary atrophic rhinitis.

The ozena is a disease of the female sex in particular. It is remarkable that the development of the ozena starts in childhood mostly, according to exact histories. We find a mucopurulent rhinitis, lasting for many months or even years during early childhood before the development of the characteristic fetor. After a certain time of discharge we notice the typical atrophy, and later the formation of crusts, together with fetor, if the discharge lessens and the atrophy becomes greater. Of course, we do not expect to get this typical history in every adult, but we can obtain this or similar histories after questioning in this direction very often. Some patients come to the doctor complaining of dry pharyngitis as the first symptom of their ozena, pains upon swallowing and choking sensations. It is interesting that the disease becomes worse during puberty and between the 20th and 30th year of age. Whether this is due to endocrine changes must be subject of later research work.

The symptoms of the developed ozena are crusts in a very dry atrophic nose associated with a terrible fetor, which interferes with the social life of the patient. It is very characteristic that the patient himself does not notice the fetor. If the patient himself is noticing the fetor it is due to sinus affection except in rare cases. A very important symptom is the inability of the patient to breath through the nose, which causes snoring and breathing through the mouth. This often leads to the wrong diagnosis of hypertrophic adenoids particularly in children when the fetor has not as yet developed (case 3). This paper does not mention ozena of the larynx as I have not observed enough of such cases.

The secondary atrophic rhinitis gives the same symptoms in its later stages. However, very exact histories and examinations lead to to the diagnosis of a chronic sinusitis. X-ray examinations of the sinuses show them to be normal in cases of ozena—except in rare cases of a primary ozena of the sinuses—an important differential diagnostic symptom against the secondary ozena being due to chronic sinusitis. Furthermore the ozena develops on both sides of the nose at the same time, but in the secondary atrophy it develops on one or the other side. Sometimes we may be deceived by a septum deviation, but careful

postrhinoscopic examinations always show atrophy of the posterior parts of the nose on both sides, even if the atrophy is not to be seen by the rhinoscopia anterior. This differentiation is very important, as the prognosis and therapy is different. The treatment of the primary sinusitis improves the atrophic rhinitis too.

I am emphasizing the early symptoms of ozena particularly in early childhood, because watching them we are able to start our treatment in the early stage, when there is a better chance for improvement. Furthermore an adenotomy can make the ozena worse by increasing the ducts of the upper respiratory tract.

Not finding satisfying results with the common methods of therapy I have attempted three different kinds of treatment on three groups of patients. One group is treated with *Metallosal* and *Manganosi tablets* (ad modum Walbum, preparations of mangan salts)*; the other group with injections of boiled milk as unspecific protein body therapy; and the third group is exposed to a malaria treatment as are the general paresis patients.

The treatment with mangan salts is recommended by Vibede and Moerch in Denmark. The greatest difficulty of this method consists in finding the correct dosage in each case. An unsuccessful attempt was made to find a general rule for dosage to simplify Moerch's instructions. I must say that wrong dosages—too high or too low—each make the disease worse, but if the correct dosage is found for the individual case it gives excellent results.

Moerch starts the treatment with injections of 2.00cc. of Metallosal intramuscularly every other day, giving a total of 10 injections in each series. If a favorable change sets in (diminution of crusts and fetor), we continue the same dosage for a second and third etc., series until we get a complete disappearance of fetor and crusts for at least three to four weeks. If the symptoms become worse after the first series, then we change the dosage enlarging or diminishing 0.1 cc. for the next series. However, we have to give at least

eight injections before we are permitted to diagnose failure and to apply another dosage. It can occur that after a few injections the fetor seems to become worse but later with the same dosage we find a good improvement. Therefore we have to give nearly a complete series. The testing of the correct dosage requires much patience on the part of the patient as well as of the doctor, but the success justifies the endeavours.

After getting the described good effect of the treatment with Metallosal injections we start the peroral treatment with Manganosi tablets. 1 to 2 tablets are dissolved in a pint of warm water or soup, otherwise a stomachache may result. The peroral application of 1 to 2 tablets daily has to be continued for several months. We prefer to use one series of injections of Metallosal as an aftertreatment after 6-8 months, giving the last found dosage, even if the patient has no symptoms.

Concerning the treatment with protein bodies I use cow's milk, which is sterilized by boiling for ten minutes. Purposely I do not take the different kind of preparations for the experiments, as they do not produce as much fever. For the first dosage I give 1 cc. for every 10 kg. of body weight, and increase the dosage according to the temperature until a maximum of 15 cc. is reached. For avoiding pains 3 to 5 cc. of a solution of 1 per cent Novocain is added to the milk. In the beginning of the treatment it is advisable to give the injections twice a week, if the general condition permits. Later we can reduce the injections to one a week.

Only good results are obtained from milk injections when a high temperature is reached. Therefore I think that malaria with its fever attacks might have the same good results, though the etiology need not to be a tertiary syphilis. I use the typical malaria therapy as is usual in cases of general paresis. After 7 to 8 fever attacks the malaria is stopped with quinine. However, the results of this treatment, which was used by several authors (Marschik-Schnierer, Trimarchi, Wiskovsky and others) with varying degrees of success, were so poor that I do not continue with these experiments.

Some characteristic histories of the 25 cases

^{*}We are indebted to the Leo Company, Kopenhagen, for our supplies of Metallosal and Manganosi tablets.

which were treated by these methods may be described to show the effects of the treatment. I have been unable to investigate these cases further because of my moving to the U. S. A. to establish residence. Therefore I am continuing my experiments here.

Of course, every case was examined for lung and heart diseases. Wassermann reaction in blood and X-ray examinations of the sinuses were taken. The findings in every case were all negative. Furthermore, it is important that no patient was allowed to apply any local treatment e. g. oil or the like during all the observation time beginning a month previous to our treatment. Giving a local treatment together with the general therapy we might gain much better results. However, for a better judgement it is necessary not to combine different methods.

Case 1. 45 year old woman complaining of had odor from the nose and severe disturbance of breathing through the nose and headaches since her childhood. She is not able to give exact data of her troubles as a young girl, however, she remembers that she had about 6 attacks of erysipelas of the face between the age of 15 and 20, and later 5 recurrences until 1923. Upon coming to our hospital in 1935 we saw the typical symptoms of an old ozena with severe atrophy of the nose, yellow green crusts and a terrible fetor. According to her statements her condition had never been as bad. Starting October, 1935, she was treated with ozena vaccine (Perez-Hofer bacilli) November, 1936. During this treatment the fetor became less, but the crusts and headaches did not change. Therefore the patient interrupted the treatment herself, and did not return to our hospital until March, 1937. At this time she came back for an acute cold. Examing the nose we found quite a different appearance. We could not find crusts nor fetor, but the atrophy was unchanged. Patient told us she had had no treatment for half a year neither locally nor generally. However, she had four attacks of erysipelas of the face again with temperature of more than 104°.

Though patient did not need any treatment at this time prophylactically we gave her a series of Metallosal (2.00 cc. every other day) later peroral Manganosi tablets. As she had been

suffering from a gastritis for a considerable length of time the tablets caused an aggravation of the stomach troubles. Without any treatment she felt quite well, no fetor, no crusts. After two months a slight fetor started again. Therefore a new series of Metallosal was begun. After 19 injections (all together) the treatment was stopped. Except for the atrophy of the nose no more symptoms were to be found. We examined her every month, however, the good condition did not change through an observation period of one and a half years.

Case 2. A 35 year old woman, as a child had had scarlet fever, diphtheria, and whooping-In 1912 meningitis, 1924 bacillary dysenteria, 1928 appendectomy. Since the age of fourteen (1916) she has been complaining of purulent discharge from the nose, crusts and fetor and difficulties in breathing. Therefore an operation of the sinus maxillaris was performed in 1919. After this operation there was no change in previous condition. Therefore she was treated with local application of iodated glycerine. When she came to our hospital in May, 1937 her nose was atrophic, full of crusts, and had a terrible fetor. The X-ray plate showed no pathological change except a slight swelling of the mucous membranes of the right maxillary sinus. The treatment consisted of Metallosal injections (2.00 cc. every other day). After the third injection we could watch a decrease of crusts and fetor. There were no more crusts after the first series. but a profuse serous secretion of the nose and less fetor. Getting this satisfying result we tried the peroral treatment, but two weeks later the condition became worse, crusts and fetor increasing. Therefore two new series of injections were given until crusts and fetor were gone. Now the administration of tablets was successful. During a period of six months the patient's condition was still good, as no crusts and no fetor was noted even though no treatment had been given during this time.

Case 3. concerns a small undernourished girl, 9 years of age. Her parents report that she had been sleeping with open mouth for at least two years, because her breathing through the nose was blocked. She had a discharge of pus from both sides of the nose, sometimes the parents noticed a bad odor.

The practitioner who saw her first sent the girl to the hospital for adenotomy. The examination did not show enlarged adenoids; instead a severe atrophy of both sides of the nose, crusts and pus and fetor. All other examinations were negative. Treatment was begun with injections of two cc. of boiled milk intramuscularly. After the second injection there was no fetor, fewer crusts were noticed. We increased the dosage to 2.5-3.0 cc. of milk. The temperature after the injections was as high as 103-104°. After but five injections there were no crusts and no fetor. Therefore no further treatment was given, and we had no reason to do anything more as the condition has improved since this time; there has been no fetor, no crusts and The child can no difficulties in breathing. sleep with closed mouth again. (The observation time is 9 months).

21 years old woman who was Case 4. never sick. For approximately ten years she has been complaining of the typical symptoms of ozena, of crusts and fetor. Repeated local treatments had never had any effect. Upon examining the patient we find a high degree of cleft palate (the cleft is about 1" broad going through all the hard palate execpt the alveolar process and through the soft palate), which is occluded by a rubber plate. The nose is atrophic, full of crusts and has a terrible fetor. X-ray plate of the sinuses proved them to be negative. The treatment consists of milk injections beginning with a dosage of 5 cc. increasing to not more than 15 cc. temperature after the injections ranged as high as 103°. After seven injections the condition was remarkably better, the fetor and the crusts gone, although the atrophy not changed. After seven months without any treatment the ozena did not become worse.

Case 5. A girl, 13 years of age, complaining of headaches, bleeding of the nose, crusts and bad odor for about two years. Immediately after the symptoms were noticed she was treated with cod liver oil for 10 months without any effect, the crusts and the fetor remained. The examination gives the typical symptoms of ozena. The treatment consisted of milk injections, 4-10 cc. The temperature after injections about 99°. After twelve in-

jections the condition did not improve. The crusts were somewhat diminished as well as the fetor, however, it was not a satisfying result. Therefore I continued the treatment with Metallosal injections, 2.00 cc. After 14 injections there were no more crusts and the fetor disappeared. The girl has been without any treatment for six months and is in the same good condition.

Case 6. A normal developed, well nourished girl, 4 years of age, who has never been sick before suffers from a putrid secretion of the nose with a bad smell and crusts. This condition has been noticed for about two years. One and a half years ago she was treated with autovaccine injections for 8 months without any effect. For ten months now she has been without any treatment. The nose of the child is atrophic and full of crusts which blockade the breathing through the nose, and there is a terrible fetor. I tried the malaria treatment in this case. After six fever attacks the malaria was stopped with quinine. Immediately after this procedure there were even more crusts and the fetor more pronounced than before. Three to four weeks later I noticed a reducing of crusts and fetor without any treatment in the meantime, but this improvement did not last. Two months later the condition became worse again.

Case 7. is a 15 year old girl complaining of a chronic rhinitis with purulent discharge and headaches and bad smell of the nose. This condition has been present for about four years. Two years ago vaccine therapy for some months was given without improvement. A month ago a Gottstein's packing was done to remove the crusts, however, few days later she had the same complaints. We tried malaria treatment in this case also. She got nine fever attacks before we stopped the fever with quinine medication. Immediately after the fever, the secretion of the nose became more profuse and the fetor was a little better. But the observation showed that the condition was not improved, the fetor and the crust formation were about the same in spite of the treat-

Comments: 24 patients were treated by these three different methods. Twelve with mangan

salt treatment, eight with milk injections and four with malaria therapy.

Case 1 was like an experiment of nature. We noticed that the severe symptoms of the ozena were improved after every recurrence of the erysipelas with high temperature. This observation made us try a fever treatment. And in fact we get remarkably good results by producing fever with milk injections artificially. (Cases 3, 4). The most important result is the quick disappearance of the fetor after only a few milk injections. However, we get this good effect only in these cases reacting with high temperature. Patients who do not react with high fever do not improve by this treatment (Case 5). By repeating the injections the crusts become less, we see a profuse mucopurulent secretion for some weeks. After this secretion is stopped the nose is quite clean, there is no more fetor, however, the atrophy does not change. This good effect lasts.

The conclusion that every kind of fever would have the same good results is wrong. Our experiments with the malaria treatment do not show any improvement in four cases, two adults and two children (see cases 6, 7). As malaria is a severe infection and the results are bad I do not continue experiments in this line.

The treatment with Metallosal and Manganosi tablets respectively gives very good results as cases 1, 2, 5 show. The improvement by mangan salt treatment is believed to be due to the peculiarities of the metals to stimulate the production of antibodies, and to stimulate the endocrine glands (Walbum). Though we are not able to explain the causes of the improvement exactly we are satisfied to get these good results by these methods.

Finally I may emphasize that Metallosal is unlimited durable, and in both treatments, Metallosal as well as milk injections, there are no disagreeable disturbances. The treatment with Metallosal and Manganosi tablets respectively gives very good results, but it is

necessary to test the correct dosage in every individual case for getting satisfying results.

SUMMARY

- 1. 25 patients suffering from ozena were treated with mangan saits milk injections or malaria treatment. No local therapy was used for all the time observed from the beginning of this experimental treatment.
- 2. Discussion of the diagnosis of ozena. It is emphasized that the beginning of this disease can be watched in the early childhood often, and the blocked nasal breathing by the crusts may suggest the wrong diagnosis of enlarged adenoids.
- 3. Injections of boiled milk gives very good results. In particular a desodoration in a very short time, under the condition that the patient react to the injections with high temperature.
- 4. Malaria treatment does not show satisfying effects, hence does not justify such a severe artificial infection and reduction of the general condition.
- 5. The treatment with mangan salt preparations shows a very good improvement, though the correct dosage must be tested for every case.
- 6. It is advisable to start the treatment with several injections of boiled milk for reducing the fetor in a short time and to continue with Metallosal.
- 7. Neither milk injections nor metallosal injections produce any kind of disagreeable disturbances or complications.

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Some Considerations of Wound Healing

WALTER H. SIMMONS, JR., M. D.,* CHARLESTON, S. C.

A study of one hundred consecutive laparotomies was made on Gynecological patients for the purpose of observing the factors present on wound healing. All were low mid-line abdominal incisions. Each wound was grouped as *, poor; **, fair; ***, good; ****, excellent. With few exceptions the grading was done on the eighth day postoperatively and subsequent observations made so that if the condition of the wound changed for better or worse it was graded accordigly higher or lower. The criteria used for grouping were the presence or absence of infection, presence of pus, local heat and induration, and the amount and appearance of granulation tissue. When the condition for which operation was performed was an infected one and intra-abdominal drains were necessary this was given due consideration in the grading as far as was possible. With few exceptions the abdominal wall in each case was closed with plain catgut. No. 0 or No. 1 for the peritoneum, chromic catgut No. 1 or No. 2 on the fascia and medium or heavy dermal continuous interlocking skin sutures. The great majority of cases had from three to six or eight medium silkworm tension sutures. In one or two cases small tension suture abscesses formed and unless the wound was infected otherwise this was not considered in the wound grouping.

Of the hundred patients seventy-three were colored and twenty-three were white. The approximate percentage of white patients in each group as compared with colored are shown in Table I.

	****	***	**	*
White	67%	26%	7%	0%
Colored .	55 <i>%</i>	29%	10%	6%

TABLE I. Percentage of White Patients as Compared to Colored in Each Group.

Discussion of these findings will come later. The number of positive Wassermann reactions in white patients was too small to warrant consideration, but among the seventy-

three colored patients there were thirty-three positives. This had no demonstrable effect on wound healing as both the patients with positive Wassermann reactions and the Wassermann-negative ones showed 55% to be in Group ****. In other grades there was not the same exact percentage, but it was sufficiently close to support the conclusion.

It has long been known that age affects wound healing and our results are in agreement. The youngest patient was sixteen years old and the oldest was fifty-five. Dividing them into groups according to age thirty-six and over, Table II shows the results.

	****	***	**	*
Age 16-35	60%	24%	9%	7%
Age 36-55	53%	37 %	10%	0%

TABLE II. Grouping Wounds According to Age of Patients.

Hemoglobin determinations were made on all patients by the Hayden-Hauser method one or two days before operation. Where there was excessive blood loss during operation subsequent determinations were made and in these cases the postoperative determination was taken as the given case's hemoglobin percentage. Observations indicate that the percentage of hemoglobin has no effect on wound healing unless it is excessively low. Our determinations ranged from fifty percent to ninety-seven per cent and there was apparently no relation to wound healing within these limits.

As is commonly known the greatest factor in the healing of wounds is the presence or absence of infection. The table below sufficiently stresses this point.

	****	***	**	*
Non-infected	65%	29%	6%	0%
Infected	0%	8%	42%	50%

Table III. The Effect of Infection on Wound Healing.

Recent literature is enthusiastic over the effects of various vitamins on wound healing. The Vitamin B. complex was given to a group of sixteen of these patients in the form of the best quality brewer's yeast. Two drams three times a day were given from two to nine days

^{*}From the Department of Obstetrics and Gynecology of Roper Hospital, Charleston, South Carolina.

preoperatively and resumed the third day after operation. This group of patients showed a slightly higher percentage of cases in Group **** than those not given yeast. This advantage is doubtful, however, and it is not thought worthwhile in the average case. Likewise cevitamic acid was given to the same number of cases 50 mgs. three times daily over the same periods as was the brewer's yeast. There was practically no difference in the condition of the wounds of these patients and those not receiving synthetic Vitamin C.

DISCUSSION

The better showing of the white patients over the colored is best explained on a nutritional basis. While all of these patients are necessarily in the lower economic group the white patients were generally in a better state of nutrition than the colored ones. brought out early that the hemoglobin percentage was a fair indication of the general nutrition. Vaginal bleeding in various forms is so frequently a symptom of Gynecological patients, however, that the hemoglobin does not parallel the nutritional state. Even though this were true, it is stated previously that as long as the hemoglobin percentage is above 50% it does not influence wound healing.

Infection plays such an overwhelming part that other factors could have been more accurately evaluated if the infected cases had been excluded. That is, in a case if infection, regardless of the hemoglobin determination, Wassermann reaction, race, age, etc., the wound healing was invariably bad. This accounts in part for the age table. Whereas the percentage of young patients in Group **** was higher it was also higher in Group * because it happened that the infected cases fell in the younger group.

Recent publications on the effects of various vitamins conclude that they are of value chiefly, as would be expected, where there is a deficiency of that vitamin. Our cases were studied for determining the practical effect of such therapy on the ordinary every-day case, granting, for example, the wound of one suffering from scurvy will fare better if given Vitamin C. There is some doubt that our medication

was continued over long enough periods preoperatively. Against this point, however, is the fact that in those cases where vitamin therapy was given for nine days before operation the results were no better than in those treated over shorter periods. In fact, as is seen above, none of them showed a much better wound healing than the group not receiving it at all.

Finally, some mention should be made of the effect of good apposition of the skin edges. While it is difficult to take this factor into consideration in grouping, accurate appostion of the edges gives better results obvious to the casual observer.

CONCLUSIONS

- (1) Infection is by far the most important factor in wound healing.
- (2) White patients showed better wounds than colored patients, probably because of a better state of nutrition.
- (3 Age has some effect on wound healing, the younger persons rating higher.
- (4) Wound healing is not affected by positive Wassermann reactions.
- (5) A decrease in hemoglobin, as long as it is not below 50%, does not adversely affect wound healing.
- (6) No worth while beneficial effects could be demonstrated by the preoperative and post-operative use of brewer's yeast or cevitamic acid.

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Diverticula of the Small Intestines

A. E. BAKER, M. D., CHARLESTON, S. C.

Diverticula of the small intestines are more common than we realize. Those of the duodenum are frequently demonstrated by X-ray examinations and those of the jejunum are most often found during abdominal operations. It is seldom that their existence in the duodenum or the jejunum do any harm whatsoever, but there are occasional cases which show that they may be the source of local peritonitis. It is strange that these diverticula, which are very thin, having little or no muscular wall, do not give more trouble. However, the liquid contents and the relatively small amount of bacteria of the upper small intestines prevent such troubles as more frequently takes place in the diverticula of the large intestines because of its solid or semi-solid contents, the great number of bacteria and the sluggish emptying of the gut. We find the diverticula of the upper small intestine are usually along the mesenteric border and seem to project from the apertures caused by the penetration of the bowel by blood vessels from the mesentery.

In the absence of clinical symptoms, the removal of these upper small intestinal diverticula is certainly not justified. When surgical treatment is necessary because of inflammation or rupture, the diverticulum is removed as we do the appendix, the neck is tied with silk or linen and the stump treated with carbolic acid or cautery with or without inversion. There are cases of multiple diverticulitis reported by Horsley, where it was necessary to remove a segment of gut.

Case 1. In September 1931 I was consulted by a small emaciated white woman 42 years of age who weighed only 85 pounds. She complained of epigastric discomfort since child-hood. For four months prior to her admission she had more or less constant fullness and pain in the epigastrium, daily vomiting, constipation and a loss of ten pounds in weight. Laboratory workout, including Wassermann and the routine blood work, was essentially negative except for 50% hemoglobin and a

Read before the South Carolina Medical Association, Spartanburg, S. C., April 12, 1939.

low red blood count. X-ray examinations of the stomach and the duodenum: "The stomach is of normal size, shape and position but there was some evidence of irregularity around the pylorus. This does not have the appearance of an ulcer or a new growth and is most probably the result of adhesions. In five hours there was a gastric residue of about 75%. The first portion of the duodenum is of regular triangular outline but the second portion shows several diverticula which retained the barium for a good many hours. These vary in size from about 1/4 to 3/4 of an inch." Thinking her condition to be due to pyloric obstruction, I opened her abdomen. Finding the pyloric opening rather small, a pyloroplasty was done and at the time the abdomen was closed and there was no doubt that she had a good opening between the stomach and the duodenum. The usual amounts of post-operative fluids were given, but she continued to vomit colorless fluid and bile for five days. The picture was still that of an obstruction, possibly more distal to the pylorus. Her condition by this time was critical. On the fifth post-operative day something had to be done and therefore through the same incision a gastric-jejunostomy was done. Her convalescence after a day or two was uneventful and she left the hospital at the end of two weeks in good condition. I have always felt that the duodenal diverticula played some part in causing this obstruction, probably by inflammatory changes.

Meckel's diverticulum is the most frequent of the small intestinal diverticula. It is said in some clinics to be encountered in about 2% of patients, although in our experience it is less. This structure arises from some part of the last three feet of the ileum. Grossly it resembles the ileum or it may be smaller in circumference. It is usually from two to eight inches in length and when seen within the abdomen it may resemble an appendix or it may appear to be an extra piece of gut, with little or no mesentery, one end of which is attached to and communicates with the ileum and the other end either free or attached to

the umbilical cicatrix or to the mesentery. The explanation of Meckel's diverticulum is that during the early weeks of pregnancy the fetus is attached to the vitelline vesicle by the vetelline duct. This structure is therefore brought about by the failure of the vitelline duct to atrophy. In structure Meckel's diverticulum is made up of coats resembling the ileum but occasionally the mucosa contains islands of gastric or pancreatic tissue. These islands of gastric mucosa, when present, secrete the same gastric juices as found in the stomach. A number of cases of peptic ulcer in the mucosa of this diverticulum have been reported. Some of these ulcers hemorrhage and others rupture. Many diverticula exist throughout a lifetime without giving any trouble, but there are cases of fecal impaction, incarceration in a hernial sac, intestinal obstruction due to the diverticulum or the fibrous cord remnants of it. The diverticulum frequently undergoes inflammatory changes, either catarrhal or gangrenous, often with perforation, resulting in general peritonitis. The diagnosis of diverticulitis is rarely made before the abdomen is opened. The usual pre-operative diagnosis is acute appendicitis or intestinal obstruction.

It has been my privilege to operate upon several cases of Meckel's diverticulum, none of which were pre-operatively diagnosed. My first was a white woman thirty years of age from which I was removing pus tubes, when this structure was encountered. This was an unusually long diverticulum arising from the ileum ten inches from the ileo-caecal junction, the distal end being attached to the umbilical cicatrix. This appeared to be an extra piece of gut without mesentery, stretching across the abdomen from the ileum to the umbilicus. Because of the patient's condition I did not remove it, however, it was evidently damaged during this operation because on the seventh post-operative day, I found a piece of necrotic tissue in the incision. Thinking it to be a piece of necrotic fascia, it was extracted with a forcep. To my amazement, the entire necrotic diverticulum came out of the abdomen. Nature was very good to this patient and to me for after a week of drainage, she made an uneventful recovery. I was informed that she even produced a child in the course of the next two years, although I had removed two very large pus tubes.

Another case of Meckel's diverticulum was encountered when operating upon one of the Azalea Queens, a young lady sixteen years of age. My pre-operative diagnosis was an acute appendicitis. Like the first case, this diverticulum gave the appearance of a normal piece of gut resembling the ileum, with very little mesentery, one end attached to the ileum and the other to the umbilical cicatrix. An inflamed diverticulum accounted for the symptoms in this case. Her recovery was uneventful.

A third patient was one who had previously been operated on for appendicitis. He was a white man twenty-nine years of age who had had several attacks of what resembled partial intestinal obstruction for which he was admitted to the hospital on two occasions and relief was obtained by enemas. I operated this case during an attack of intestinal obstruction and found the obstruction to be in the ileum, the cause of which was an acutely inflamed diverticulum. The diverticulum was removed by ligation at both ends and inversion of the stump by a linen purse string into the wall of the ileum. It is frequently necessary to resect a large diverticulum from the wall of the ileum. Pathological report: "Received a diverticulum seven cm. in length and from 1.5 to 2 cm. in diameter, with gray exudate on the serosa distally and reddening of the serosa elsewhere. The lumen is partially constricted in the mid-portion and the mucosa throughout is swollen and red. It contains mucoid fluid and pale yellow semi-solid material. Edema and hemorrhage of the whole wall of the diverticulum is consistent with strangulation. The mucosa resembles that of the ileum. In addition there is a focal low grade inflammatory infiltration of the wall, small patches of exudate in the lumen, and thin flakes of fibrinous exudate on the serosa. The inflammatory features are apparently secondary to the strangulation."

He made a smooth recovery and has had no further trouble. This subject of small intestinal diverticula and especially this third case whose appendix had been previously removed by error because of right-sided abdominal pain, reminds us that there is another structure other than the appendix in the lower right abdomen said to be present in about 2% of people, which when inflamed gives localized pain, nausea, rigidity and an elevated blood count. Unfortunately, there are still operators who pride themselves upon their ability to remove an appendix through a very small incision. It has, however, been my experience in observing surgeons of recognized ability that they never close an abdomen, except in the presence of infection, without an abdominal exploration. Many of our patients realize the importance of this and request it.

It is therefore necessary for us to keep our minds as well as our incisions big enough to see something other than an appendix.

DISCUSSION

Dr. George H. Bunch, Columbia:

I have enjoyed Dr. Baker's presentation. Diverticulosis of the small bowel is a subject of intriguing interest. These diverticula are of two kinds, con genital and acquired. The congenital type is Meckel's diverticulum and is the remains of the vite!line duct. It is single; it is not multiple; it springs from the antimesenteric portion of the small intestines. It can come from any segment of the intestine but is more commonly found in the terminal ileum, as Dr. Baker said. What makes Meckel's diverticulum of interest is that it may become invaginated and cause intestinal obstruction or it may become attached to the abdominal wall and cause obstruction. What makes it of particular interest is that in it may be found gastric mucosa, the same as in the stomach, which may ulcerate and bleed.

The point I wish to stress is that in children, when we have intestinal bleeding, it may be from a Meckel's diverticulum. If no cause for bleeding can be found I think an exploratory laparotomy should be done, and if Meckel's diverticulum is present we should remove it.

Acquired diverticula are manifested not before middle age. They are multiple and not single and differ from Meckel's diverticulum in that they spring from the upper portion of the small intestine from near the mesenteric attachment and come from weak places in the intestinal wall that occur about where the blood vessels have entered.

Dr. W. C. O'Driscoll, Charleston:

I feel a hesitancy about addressing such a distinguished audience of physicians and surgeons. I am not a practicing physician but am like Kipling's Private Mulvany; I was a corporal once but was reduced. I am just teaching now.

Dr. Baker's paper beared so much upon developmental medicine and upon my own branch of anatomy and has been so well presented and so ably discussed that I cannot refrain from speaking. We should like to get you gentlemen to encourage our students to pay more attention to these things in the earlier stages. They cannot learn so much about them as you can, but their attention should be directed towards them.

We have two kinds of diverticula, of course, acquired and congenital. They are characteristic of embryological developments. They grow along the whole intestinal tract from the aesophagus to the large intestine. They are either congenital or acquired. The congenital are more frequently found in the small intestine and except for Meckel's diverticulum more frequently in the anterior part. Meckel's diverticulum is usually two or three inches long, occurs in two or three per cent of the cases, and is usually two to three feet from the ileocecal junction.

I congratulate Dr. Baker upon his presentation and hope that you will call the attention of the students to these things.

Dr. Roger G. Doughty, Columbia:

I simply want to call attention to a diverticulum which took me by surprise a short time ago. The patient was a man who had a diagnosis of recurrent duodenal ulcer, made largely on X-ray and a history of pain. We opened the abdomen following a prior operation and took down a gastro-enterostomy which was not functioning satisfactorily and undertook to do something about the duodenal end, which was bound up with adhesions. I very quickly ran into a large diverticulum, coming from the duodenum distal to the pyloric segment. I have never seen one in that location before and I think quite obviously it was the primary cause of this particular individual's trouble. The removal of the diverticulum was also accompanied by a partial pyloroplasty so that I can not say absolutely that the relief afforded the individual by the operation was entirely due to the resection of the diverticulum, but I rather think

The location of the diverticulum was so unusual that I thought it was worth bringing to your attention.

President's Page

September 1, 1939

Mr. George S. Malavis, State Compensation Officer Works Progress Administration Columbia, S. C.

Dear Mr. Malavis:

We herewith hand you a list of those physicians in South Carolina who have signified their desire to handle W. P. A. injury cases by completing and returning the questionnaire recently sent out from Dr. Hines' office at direction of the Council of the South Carolina Medical Association. This list is made up of those answering affirmatively and stating their qualifications for doing traumatic work and is arranged by counties.

There are, no doubt, other physicians in the State who wish to participate in this practice who did not reply to the questionnaire and there will be new physicians to come into the State from time to time. Please, therefore, understand that this list may be added to as the occasion arises.

Since the policy of the Works Progress Administration is now to send all major surgery to the United States Marine Hospitals it will not be necessary to maintain a separate list of those physicians who have qualified themselves for major surgery.

The officials of the South Carolina Medical Association sincerely hope that you will distribute this list of physicians wishing to do this government work among your timekeepers and foremen and that our efforts will result in a more equitable distribution of W. P. A. traumatic surgery among the physicians of South Carolina.

Thanking you for your interest and cooperation, I am with kind personal regards.

Yours very truly,

Douglas Jennings, M. D., President, South Carolina Medical Association.

See pages 263-4 for further comments.

Editor.

THE JOURNAL

OF THE

South Carolina Medical Association

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OCTO	BER. 1959

THE PRESIDENT ELECT A. M. A. TO VISIT COLUMBIA MEDICAL SOCIETY

A cordial invitation has been extended by the Columbia Medical Society to attend the meeting there on October 9 in honor of Dr. Nathan B. Van Etten of New York. Dr. Van Etten represents the highest type of general practitioner in the United States and as a leader in organized medicine has endeared himself to the profession of this country. Dr. Van Etten has spent his entire medical life in the city of New York graduating from Bellevue Hospital Medical College in 1890.

He has been honored by his confreres in the State of New York on numerous occasions and as was to be expected has been frequently called to high positions by the American Medical Association until now he enjoys the highest honor within the gift of American medicine that of President Elect of the national body.

Dr. Van Etten first entered the House of Delegates of the American Medical Association in 1920, was elected Vice Speaker in 1933 and Speaker in 1935. He served in this capacity until 1938 and left the Speaker's Chair having earned in a marked degree the respect and admiration of his fellow delegates. Dr. Van Etten is a delightful companion and we look

forward to his visit to South Carolina with the keenest interest.

THE SOUTHERN MEDICAL ASSOCIATION MEETS IN MEMPHIS

South Carolina will be largely represented at the thirty-third annual meeting of the Southern Medical Association, November 21-24. The good fellowship always manifested at the Southern induces an increasingly total attendance each year until at the present time the Southern is the second largest medical organization in the world.

South Carolina doctors have always been prominent both in the scientific and business sections of this great Association. At the present time Dr. Kenneth M. Lynch of Charleston is a Councilor from this section of the South. Mrs. Charles P. Corn of Greenville is President Elect of the Woman's Auxiliary. Dr. Richard Allison of Columbia is Chairman of the Section of Dermatology and Syphilology Dr. J. W. Jervey of Greenville, a past President, is a member of the Board of Trustees.

CONFERENCES OF STATE SECRETARIES AND EDITORS OF STATE MEDICAL JOURNALS

One of the most important medical meetings held in this country annually is that of the get-



Dr. Nathan B. Van Etten, New York, N. Y. Guest Speaker Columbia Medical Society October 9th

together of the officers of State Medical Societies at the headquarters of the American Medical Association in Chicago. This year the Conference will be held November 17 and 18. The invitation is extended by the officials of the A. M. A. not only to State Secretaries and Editors but to Presidents of State Medical Societies. The Board of Trustees of the American Medical Association usually convenes at the same time. This is one meeting in which every member is urged to accept the privileges of the floor and to present the peculiar problems of his particular State or to discuss any phase of the program. As is very evident the medical profession is now facing some of the greatest problems of all time. The medical care of the American people is of course a paramount concern and as always the medical profession stands ready for any call for leadership in this connection. No one knows the emergencies just ahead of us but medical men have never failed to measure up to any responsibilities placed upon them either in peace or in war.

In so far as it is possible to foretell coming events of national policy it is certain that the Conference in Chicago will have before it all of the information available for the officers of the respective State Medical Societies to be guided by in the next few months. The attendance is always representative of the entire country.

SOUTH CAROLINIANA

J. I. WARING, M.D., CHARLESTON, S. C.

BALANTIDIASIS, by M. D. YOUNG. COLUM-BIA. J. A. M. A. 113:580, AUGUST 12, 1939.

A well illustrated article describing seven cases of infection with Balantidium coli in South Carolina, and results of treatment with carbarsone.

COMPOUND FRACTURES AND THEIR TREATMENT, by A. T. MOORE AND J. T. GREEN. COLUMBIA. SOUTH. M. J. 32:891, SEPT., 1939.

An extended discussion of compound fractures with a number of conclusions as to treatment.

THE CONGENITAL FACTOR IN ACQUIRED DIVERTICULOSIS OF THE JEJUNUM AND ILEUM, by G. H. BUNCH. COLUMBIA. SOUTH. M. J. 32:919, SEPT., 1939.

A discussion of the origin of diverticulosis and report of a unique case in which development defects of both striated and nonstriated muscle were present.

MADELUNG'S DEFORMITY AND ASSOCIATED DEFORMITY AT ELBOW, by C. F. THOMPSON AND B. KALAYJIAN. CHARLESTON. SURG. GYNEC. & OBST. 69:221, AUGUST, 1939.

A discussion of this growth deformity of the distal end of the radius. Corrective osteotomy is described and cases are reported in detail.

RHABDOMYOSARCOMA, by J. M. FEDER AND H. Y. HARPER, ANDERSON. SURG. 6:76, JULY, 1939.

Report of a case which is unusual because of the old age of the Negro patient and the situation of the tumor (sterno-cleido-mastoid muscle).

SICKLE CELL ANEMIA WITH CEREBRAL THROMBOSIS, by A. I. JOSEY. COLUMBIA. SOUTH. M. J. 32:915, SEPTEMBER, 1939.

Report of a case in a colored boy aged 8 years.

SOME NEWER CONCEPTS OF INGUINAL HERNIA, by W. C. HUNSUCKER AND D. JENNINGS. BENNETTSVILLE. SOUTH MED. & SURG. 101:313, JULY, 1939.

A consideration of the anatomy, diagnosis, and surgical repair of inguinal hernia.

STORED BLOOD FOR TRANSFUSION, by F. KREDEL. CHARLESTON. SOUTH. MED. & SURG. 7:307, JULY, 1939.

A review of reports of storing of blood and of experience with a blood bank at the Roper Hospital. Technique is described.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. M. W. Beach Clinical Record by Dr. E. B. Cannon March 3, 1939 ABSTRACT NO. 388 (53561)

Dr. Joseph Traywick (Presenting) Admitted Jan. 17, 1939; died Jan. 19, 1939.

History: The patient, an 18 months old white male infant, had been ill for 3 weeks; the mother had believed this incident to "teething." The first week of the present illness was characterized by anorexia, restlessness, fever and a rather severe diarrhea. Vomiting had occurred from time to time. Beginning about one week prior to admission, the parents had noted continuous hyperactivity of the left side of the body. On the day before admission, they noted that the left arm and hand were not used and that the right side of the body became hyperactive, the arm and leg were in constant motion. The infant had walked up until 3 days before admission. Was comatose at time of admission.

Past history revealed the patient to be the youngest of 4 children, a full term baby and a spontaneous delivery. Growth and development had been normal and there was no history of any acute infectious disease except an occasional "cold."

Physical: T 100.4 P. 120 R 28.

The patient was a well developed and nourished white male infant displaying constant agitated move ments of the right arm and leg and very little movement of the corresponding members on the left. The skin was pale and dehydrated. There was no regional adenopathy. No evidence of head injury. The fontanelles were closed and the tympani were intact and glistening. The eye movements were incoordinate, the pupils round, regular and equal but failed to react to light. The pharynx was injected. The neck was slightly retracted and The lungs were clear to percussion and auscultation, the heart in normal position, rate 120, rhythm regular and no murmurs heard. Examination of the abdomen revealed no noteworthy findings. Testes were in the scrotum. No deformity or edema of the extremities. Knee jerks appeared to be hyperactive.

Laboratory:
Urinalysis (1-19-39)
No noteworthy findings.
Blood (1-17-39)
Hb. 9 gms.
WBC 15,600
Polys 70%
Lymphs 26%
Monos 4%

Serology:

Kolmer—neg.
Kline—ncg.
Spinal Fluid 1-17-39
Character Clear—Colorless
Sugar 0
Globulin 2 plus
Total Cell Count 2 (lymphs)
Tryptophane negative
Spinal Fluid 1-19-39

Character — Sugar 0 Globulin 1 plus Total Cell Count 230

Tryptophane (lymphs 90%) (polys 10%)

Course: Pulse rate dropped slightly on second day but mounted again along with the temperature which reached 105 on the third day. General condition became rapid'y worse and death occurred on 1-19-39.

Dr. Beach (presiding): Mr. Cleckley, assuming that this patient's father was employed in a battery distributing concern and they used the old batteries for heating the house, would this suggest anything of possible etiological importance in the child's condition?

Student Cleckley: A battery contains lead which occasionally gives rise to an encephalitis. These batteries hulls have been utilized as fuel and it is possible that anyone in contact with the fumes may absorb enough to produce symptoms. The child's symptoms of paralysis on one side and purposeless movements on the opposing side point to a central nervous system lesion.

Dr. Beach: Is there any lead toward the etiology in the history?

Student Cleckley: Regarding encephalitis a postvaccinal type is occasionally encountered but that could be ruled out with an accurate history. Also a post-infectional type such as that following measles or pertussis is likewise ruled out. No epidemic form of encephalitis was prevalent at the time of the patient's illness. The stiff neck and convulsive movements make one think of meningitis. The second examination of the spinal fluid showed a marked increase of the total white count with a great predominance of lymphocytes. The reduction of the spinal fluid sugar and high lymphocyte count suggest a tuberculous meningitis, though it might have been well to see if the chlorides were also reduced, which is apparently of considerable importance in suspected tuberculous meningitis. This child had no history of exposure to metals and there were no other signs such as stippling of the red cells, a lead line, a secondary anemia, or nucleated red cells which would make one suspicious of this condition.

Dr. Beach: What is one very prominent feature of meningitis?

Student Cleckley: Projectile vomiting not related to food. This patient also had a diarrhea.

Dr. Beach: How do you explain the diarrhea?

Student Cleckley: It is possible that fibers of the vagus nerve forming the splanchnic plexi were developed in the inflamed meninges where they emerge from the brain stem, giving rise to abnormal intestinal contractions causing a diarrhea. Many cases of tuberculous meningitis seem to have a predilection for the basilar portions of the brain, localizing around these areas. On the other hand, there may have been a secondary enteritis which would account for the symptoms.

Dr. Beach: What is the white blood count in tuberculous meningitis?

Student Cleckley: It is normal at first, followed by a leucocytosis.

Dr. Beach: Mr. G. C. Smith, what is your conception of this case?

Student Smith: I think tuberculous meningitis is a likely possibility but encephalitis must be ruled out. However, there was ro preceding infectious disease or trauma. The spinal fluid sugar is remarkedly reduced, while in an encephalitis it is often increased. The onset with vomiting and stiff neck speaks for meningitis and its course is usually rapid.

Dr. Beach: Occasionally these tuberculous meningites will have a remission with quite marked improvement for a short period before dying. Any comments from the staff? (Pause.) Dr. Lassek, have you anything to say?

Dr. Lassek: There is a connection between the hypothalmus and sugar metabolism. If tuberculous meningitis involved the hypothalmus, the sugar regulating centers may be involved and the metabolism altered.

At this time Dr. Kalajian showed X-rays with two discrete hilar shadows in the lungs,

Dr. Beach: Later it was found that this child had had contact with relatives suffering from a chronic cough, probably tuberculous in nature.

Dr. Lynch: This is a case of tuberculous menigitis presenting several unusual features. The lesions, in the form of small pinhead-sized tubercules, are present over the base of the brain and run along the Sylvian fissure over the cortex of both hemispheres. From the standpoint of pathogenesis an initial tubercle either in the brain parenchyma or the choroid plexus or the meninges may serve as a so called primary focus for further dissemination throughout the brain by the cerebrospinal fluid. The tubercles here, however, are all of uniform size and appearance and give no clue to differentiation as to their age. It is also of interest that the lung lesions in this case are negligible while the hilar lymph nodes were outstanding. There is no anatomical evidence to support a belief that these followed an enlargement of tonsilar or cervical glands. Yet the nodes along the trachea and at the bifurcation were greatly enlarged and caseating, but did not extend into the lung parenchyma. Careful sections through all the lobes failed to reveal any primary focus, the so called Gohn tubercle, in the lung tissue proper, and there was no lymphatic spread evident about the bronchi in the lung suggesting a primary lesion. It is, of course, possible that a minimal lesion in the lung drained into the regional nodes, leaving no scar. It seems more likely, however, that tubercle bacilli first penetrated the tracheo-bronchial mucosa and went by the lymphatics into the large nodes about the trachea at its bifurcation, producing the primary lesion here, which gave rise to the subsequent development of the disease. There were no intestinal lesions and the abdominal lymph nodes were not involved.

BOOK REVIEWS

SURGERY OF THE EYE: By Meyer Wiener, M. D., Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Missouri; and Bennett Y. Alvis, M. D., Assistant Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Mo. 445 pages with 396 illustrations. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$8.50 net.

This is a brand new book just off the press in June 1939. The book opens with some very good suggestions about the personal health and habits of the surgeon and of such matters as to whether it is better to operate in the morning after a good

night's rest or in the afternoon, the details of which it is acknowledged cannot be carried out exactly as the book says but are important. The authors determined to make illustrations the fundamental principle to guide the operator in each operation he performs. To this end an artist who had a medical education was secured to cooperate with the authors in clarifying the text. The entire work would appear to be far above the average of such books and worthy of immediate recognition by the members of the medical profession for whom it is intended.

DISEASES OF THE NOSE AND THROAT: By Charles J. Imperatori, M. D., F. A. C. S., Professor of Otolaryngology, New York Polyclinic Medical School and Hospital; Consulting Laryngologist to Nyack General Hospital and Harlem Hospital, New York; Consulting Bronchoscopist to Manhattan Eye, Ear and Throat Hospital, and Herman J. Burman, M. D., F. A. C. S., Adjunct Professor of Otolaryngology, New York Polyclinic Medical School and Hospital; Director of the Department of Otolaryngology, Harlem Hospital, New York. 480 Illustration. Second Edition Revised, Price \$7.00, Philadelphia, London, Montreal, J. B. Lippincott Company.

This book has been published with the hope that it will be of signal service to the Senior medical student and also the general practitioner. The first edition was published three years ago and now a complete revision is called for. The opening chapter gives instruction about the equipment of the doctor's office who proposes to do this work and then comes of course a detailed description of how to examine a patient. Many practical points of course have been presented in this regard. Then all through the book there are extensive illustrations both anatomical and description of methods of treatment of diseased conditions and the necessary instruments and other measures. The publishers have done a splendid job and the purpose of the book would seem to be admirably presented.

MEDICAL STATE BOARD EXAMINATIONS: By Harold Rypins M. D., Secretary of the New York State Board of Medical Examiners and a member of the National Board of Medical Examiners. Price \$4.50, Philadelphia, London, Montreal. J. B. Lippincott Company.

This book represents the experience of one of the most widely known physicians in this country in the field of medical education. The volume is replete with practical points about the way of approach to a medical examining board. The author points out that such boards are anxious as a rule to appear not only fair but friendly to the candidate and therefore the panicky feeling often times manifested by the candidate is not justified for in the true sense of the word the examination should be be considered an extraordinary ordeal.

The author has from his great knowledge of medicine given in this book a brief but satisfying resume of the whole field of medicine and surgery and the allied specialties and to which the candidate for an examination may turn for the latest developments. Such a rapid review on the part of the candidate will prove to be a real refresher course in medicine and therefore lend much to the candidate's confidence in himself to pass successfully the approaching examination. The author points out that the graduate of any Class A Medical School need have little fear of any State Board examination for the number of failures are extremely few, almost negligible so far as this country is concerned.

The book would be a handy volume for the practising physician to keep on his desk for ready reference.

A TEXTBOOK OF SURGERY: By American Authors. Edited by Frederick Christopher, B. S., M. D., F. A. C. S., Associate Professor of Surgery at Northwestern University Medical School; Chief Surgeon, Evanston (Illinois) Hospital. Second Edition, Revised. 1695 pages with 1381 illustrations on 752 figures. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$10.00 net.

The first edition of this splendid book came off the press only a short while ago and now another edition has been called for. The contributors represent most of the great medical schools and clinics of this country to the number of about two hundred. The first chapter starts with inflammation and repair of tissue and from this point on to the last chapter of post operative care nearly every conceivable surgical lesion is discussed. There is a new section on Cancer of the lip and tongue and the author is Dr. Hayes E. Martin of the Memorial Hospital, New York. There are many other new sections and all of the original sections have been revised. Twelve authors discuss the various uses of Sulfanilimide. The illustrations are extensive to the number of thirteen hundred and eighty-one. F. R. Ober Chief of the Orthopedic Service of the Children's Hospital, Boston, gives a very good resume of the treatment of infantile paralysis. While the book is encyclopedic in scope the information has been included in one volume and is easily read.

SURGICAL ANATOMY: By C. Latimer Callander, A. B., M. D., F. A. C. S., Associate Clinical Professor of Surgery and Topographic Anatomy, University of California Medical School; Member of Founders' Group of the American Board of Surgery; Member of American Association of Traumatic Surgery; Associate Visiting Surgeon to the San Francisco Hospital. With a Foreword by Dean Lewis, M. D., Sc. D., LL. D., F. A. C. S. Second Edition, Entirely Reset. 858 pages with 819 illustrations. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$10.00 net.

This is a magnificent volume and the foreword was written by Dean Lewis, one of America's great surgeons. Dean Lewis says, "In this book the anatomy of the organ or region is first considered, and then its surgical application fully discussed. The principles and anatomy of the commoner operations are discussed, and the steps in sequence fully illustrated. The book is planned with the definite idea of indicating the paths of surgical approach to the pathologic process which is to be removed or corrected.

We have long been in need of a book in which anatomy and its surgical application are considered together or in close sequence. In this book systems and organs are studied in relation to each other, and knowledge which can be used in the ward and operating room is imparted. The book's appearance should be eminently satisying."

In a sense this book is the product of the vigorous West but the science of anatomy is the product of the ages in reality. Of course a work like this necessarily must have liberal provision for illustrations and this has been done to a superlative degree. This is no dry as dust anatomical book and any doctor who practises general medicine and surgery will find it extremely interesting and informing. The book is indeed a very practical clinical guide as the section on surgical considerations of Colles Fracture for instance indicates. The section on the spine and spinal cord injuries deserves special commendation inasmuch as automobile accidents are now so frequently met with.

A NEW PRINT OF LIFE AND LETTERS OF DR. WILLIAM BEAUMONT: By Jesse S. Myer. A. B., M. D., Late Associate in Medicine in Washington University, St. Louis, with an Introduction by Sir William Osler, BT., M. D., F. R. S., Late Regius Professor of Medicine in Oxford University, England. The C. V. Mosby Company, St. Louis, 1939. Price \$5.00.

This is one of the most delightful books to come off the press in recent years and in connection therewith it is a pleasure to print the Publisher's announcement of its appearance. "The great interest in Beaumont, the pioneer physiologist, warrants the

reprinting of Dr. Jesse Myer's book, The Life and Letters of William Beaumont. We have been fortunate in getting from Dr. Frederick A. Coller, Professor of Surgery, University of Michigan, several hitherto unpublished letters written by Alexis St. Martin. These will be found in the Appendix. We are also indebted to Dr. A. C. Ivy, Professor of Physiology and Pharmacology at Northwestern University, for an evaluation of Dr. Beaumont's research of digestion in the human stomach in the light of present day knowledge of this subject. Beaumont is one of the great characters in medical history. It is a privilege to play any part in preserving and making permanent data relating to the work of this man. Dr. Jesse Myer richly deserves the plaudits of his medical brethren in making this volume possible. His death, occurring soon after the publication of the first printing of this book in 1912, has been a great loss to medicine. Correction and verification of certain dates have been made by W. Scott Hancock, of St. Louis." The late Sir William Osler wrote the introduction to the original copy at Oxford, January, 1912, and of course his interest in the book and his investigations of Beaumont's experiments added tremendously to the fame of this pioneer physiologist. At the recent meeting of the American Medical Association in St. Louis many distinguished members of the profession visited Beaumont's grave and paid thereby personal tributes to his memory.

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MRS. N. C. BRACKETT HOSTESS TO MEDICAL AUXILIARY

The Pickens County Medical Au iliary held their September meeting at the home of Mrs. N. C. Brackett in Pickens.

Mrs. J. W. Kitchen, President, called the meeting to order at 4 o'clock, and Mrs. J. L. Valley led the devotional, reading from the 9th chapter of Mark. The Lord's prayer was repeated in unison.

Various projects occupied the business session. Owing to the illness of Mrs. D. E. Peek. our Hygeia Chairman, Mrs. L. R. Poole graciously offered to serve in her place.

Plans were made for the Mid-year Board meeting which convenes October 3rd in Easley at the Pecan Terrace Hotel, at which time the auxiliary will be co-hostess with Mrs. W. B. Furman, State President, at a luncheon following the meeting.

A thrift sale was held amongst the members and a nice sum was realized for the treasury.

After the Creed, Mrs. Brackett served her guests a sweet course.

At this meeting were Mrs. Richard Brackett, Mrs. Francis Hopkinson, and Miss Ethel Hopkinson, all of Edisto, S. C.

DR. GEORGE R. WILKINSON SPEAKS AT GREENVILLE COUNTY MEDICAL AUXILIARY MEETING

With Dr. George R. Wilkinson as guest speaker, members of the Auxiliary to the Greenville County Medical Society, recently held its first meeting of the autumn at the home of Mrs. J. W. McLean in Northgate Heights, Greenville, S. C. Dr. Wilkinson, eminent local specialist, was heard with a great deal of interest as he spoke on the "Adolescent Child."

Mrs. Everette Poole, President of the Auxiliary, presided at Monday's meeting which attracted a large number of members. The Auxiliary is one of the city's largest and most active organizations and matters of great interest as well as importance are discussed at their meetings.

Dr. Wilkinson spoke for the most part of the health of the adolescent child, how it may be safe-guarded and cared for. He also pointed out most interestingly that the emotional reactions of the adolescent are tied up in a very definite way with their health.

Mrs. Everette B. Poole and Mrs. J. H. Crooks assisted Mrs. McLean in entertaining during the social hour.

OCONEE COUNTY MEDICAL AUXILIARY

The Oconee County Medical Auxiliary met at Seneca, September 11, with Mrs. E. C. Doyle as hostess. Mrs. S. H. Ross, President of the Auxiliary, called the meeting to order, which was opened with prayer by Mrs. Doyle.

Several items of importance were discussed during the business session among which was the report of the Library Committee to the Oconee County Hospital. The Committee reported that donations had been received from the members of the Auxiliary with which curtains had been furnished for the library rooms, also some books and a library table lamp had been given by one of the members. The Committee also reported that a fund was on hand toward the purchase of library chairs, the shelving and tables having been furnished by the Oconee County Medical Society. Additional books from Seneca, Clemson College and Greenville have been sent in to the library for the use of patients, nurses and doctors.

The guest speaker for the afternoon was Mrs. C. C. Ariail of Greenville, immediate past president of the Woman's Auxiliary to the South Carolina Medical Association. Mrs. Ariail in her very gracious manner read an interesting paper entitled The Evolution of the Doctor's Wife which was enjoyed by all

present. Additional guests who were welcomed to the meeting at this time were Mrs. I. L. Sanders, immediate pasts President of the Greenville County Medical Auxiliary, Miss Grayson of Greenville and Mrs. J. R. Flynn of Seneca. Miss Leola Hines of Seneca then gave some interesting news items from the Bulletin of the Woman's Auxiliary of the Kentucky State Medical Society concerning the Jane Todd Crawford Memorial Trail and also read a write up from the Missouri State Medical lournal of the dedication exercises of the McDowell-Jane Ephraim Todd Crawford Memorial Home. She showed some attractive pictures from these magazines of the Jane Todd Crawford Trail and the Ephraim Mc-Dowell Home.

The Auxiliary adjourned for the social hour during which time the hostess served delicious refreshments. The next meeting will be held in December.

SURGERY

WM. H. PRIOLEAU, M.D., F.A.C.S., CHARLESTON, S. C.

CARCINOMA OF THE COLON AND RECTUM

Contributed by Dr. Edward F. Parker, Charleston, S. C.

By Frank H. Lahey, Ann. Surg. 110, 1, 1939

The views expressed in this article are deductions from experience with eight hundred operations. Attention is called forcibly to the fact that most carcinomata of the rectum and colon originate in polypi and adenomata. It is stated that 75% of carcinomata of the large bowel occur in the descending colon, the sigmoid, rectosigmoid and rectum, and that 65% of all polypi of the large bowel occur in the same locations. Blood in the stools is the most frequent symptom of polypi and adenomata. Proctoscopic and sigmoidoscopic examinations and contrast barium enemata are the important diagnostic procedures. urged that the first two constitute a part of every routine complete physical examination. Treatment of the polypi and adenomata, before malignancy develops, is strongly urged, the treatment of choice being fulguration.

The symptoms of carcinoma of most frequent occurrence were alteration of bowel function, that is constipation, diarrhoea, or alterating constipation and diarrhoea, blood in the stools and change in the size of the stools. With improvements in technique, the operability has increased from 69% three years ago to 88% at present. This is partly explained by the fact that earlier diagnoses have been made as a result of the incidental finding of carcinoma in routine physical examinations, and by the fact that radical operation has been considered justifiable at times even in the presence of small metastases in the liver. The types of operations and their incidence were: 20% one stage abdomino-perineal resection, 65% two stage abdomino-perineal resection, 11% colostomy and posterior resection, and 4% anterior resection. Resections of the colon were of the Paul-Mikulicz type. Various technical improvements are outlined and discussed. In the presence of an early small carcinoma, the more radical the operation should be, as when the operation is contracted, the percentage of recurrence is high.

The present view toward colostomies by patients and physicians is deplored. Most of the symptoms of a patient with a palliative colostomy are referable to the inoperable carcinoma and not to the colostomy. Patients with a colostomy following radical removal of a carcinoma are usually able to control them by means of diet and irrigations, and 75% have sufficient control so that they wear no bag whatever.

With an operability of 69% three years ago, the mortality was 13%.

With an operability of 88% during the past year, the mortality was 10%.

47% of the cases of carcinoma of the colon were alive without recurrence 5 years after operation.

42% of the cases with carcinoma of the rectum were alive without recurrence 5 years after operation.

NEWS ITEMS

QUESTIONNAIRE ON W. P. A. ACCIDENT SURGERY

On July 20. 1939, questionnaires were sent out by direction of the Council of the South Carolina Medical Association to all the practising physicians in the State to the number of about 1200 in order to determine the reactions of the profession as to the present methods of handling the traumatic surgery of the Works Progress Administration and to secure a list of those physicians and surgeons who wished to do this work. Of this number 652 questionnaires were returned. Thirteen of the returned questionnaires had no answer to the questions except a note to the effect that due to retirement or institutional work, they were not concerned.

The larger counties, those having a city, are especially strong in the feeling that there has been an unequal distribution of this surgery. Two of those listed as having complained to Washington took their complaints to Mr. Pinckney, without success. Seventeen of those listed as having received satisfactory compensation noted that the delay and "red tape" which seemed to be necessary to receive the compensation was anything but satisfactory.

The following is a list by counties of the number of physicians who wish to do this work and some comments about the situation in these counties with reference to the W. P. A. Accident Surgery.

ABBEVILLE COUNTY

Total replies 7 and number wishing to do the work 7. There seems to be an even distribution of this work in this county with satisfaction as to compensation.

AIKEN COUNTY

Total replies 16 and number wishing to do the work 16. In this county, of those replying, all but one who desired this work has received it. There seems to be some question about the equal distribution.

ANDERSON COUNTY

Total replies 33 and 30 wished to do this work. Apparently about 50% of the physicians in this county are receiving this work and that percentage feel that there is an uneven distribution of it.

ALLENDALE AND BAMBERG COUNTIES

Total replies 8. Three in Allendale County wish to do this work and five in Bamberg wish to do the work. In Allendale County the work seems to be equally distributed, but in Bamberg County there must be some question about this.

BARNWELL, BEAUFORT AND BERKELEY COUNTIES

Total replies 19. Five in Barnwell County wish to do the work, six in Beaufort and seven in Berkeley. Of these replying, none in Barnwell County who wished this work were not getting it, but in Beaufort and Berkeley, especially the latter, this is not true.

CALHOUN, CHESTER AND CHESTERFIELD COUNTIES

Total replies 19. Three in Calhoun County wished to do this work, eight in Chester and eight in Chesterfield. There seems to be an equal distribution of this work in Calhoun and Chesterfield Counties, but not in Chester. Of the total number of fifteen physicians who have done this work, two are not satisfied with the compensation.

CHARLESTON COUNTY

Total replies 60. Forty-one wished to do this work. A great many of these questionaires were covered with notations about this surgery going to only a few in the city of Charleston. The physicians from the smaller communities made no complaints.

CHEROKEE, CLARENDON AND COLLETON COUNTIES

Total replies 28. Eleven in Cherokee County wished to do this work, ten in Clarendon and five in Colleton. There seems to be an unequal distribution of this surgery in Cherokee County, and a divided opinion about it in Clarendon and Colleton.

DARLINGTON, DILLON AND DORCHESTER COUNTIES

Total replies 28. Fourteen desire to do this work in Darlington County, eight in Dillon and four in Dorchester. There seems to be a better distribution of this work in Dorchester County than in Darlington and Dillon Counties.

EDGEFIELD AND FAIRFIELD COUNTIES

Total replies 12. Five in Edgefield County wish to do this work, seven in Fairfield. There seems to be an even distribution of this work in Edgefield County, but not as well in Fairfield. Note one complaint about unsatisfactory compensation there also.

LAURENS, LANCASTER, LEE, LEXINGTON, MARLBORO, MARION, McCORMICK, NEW-BERRY AND ORANGEBURG COUNTIES

Total replies 74. Fourteen wished to do this work in Laurens County, four in Lancaster, three in Lee, nine in Lexington, nine in Marlboro, seven in Marion, one in McCormick, five in Newberry and seventeen in Orangeburg.

FLORENCE GREENWOOD, GEORGETOWN, GREENVILLE, HAMPTON, HORRY, JASPER AND KERSHAW COUNTIES

Total replies 139. Twenty-seven in Florence County wished to do this work, thirteen in Greenwood, nine in Georgetown, forty-two in Greenville, six in Hampton, six in Horry, two in Jasper, six in Kershaw. There seems to be a great deal of feeling that the work is unequal in the counties having a city. The counties with the small population offer no or very little complaint.

OCONEE, PICKENS, RICHLAND, SALUDA, SUMTER, SPARTANBURG, UNION, WILLIAMSBURG AND YORK COUNTIES

Total replies 196. Eleven in Oconee wished to do this work, seven in Pickens, fifty-two in Richland, three in Saluda, twelve in Sumter, forty-six in Spartanburg, ten in Union, five in Williamsburg and twenty-one in York. The feeling of unequal distribution seems to be worse in Richland County than anywhere else, unless it is Charleston. There is some of the same feeling in most of these smaller counties also.

More than 250 health officers, nurses, sanitarians and clerks attended the annual meeting of the personnel of the State Health Department held in Columbia, September 27, 28, and 29. The meeting was opened with a

short address of welcome and discussion of vital health problems by Dr. James A. Hayne, State Health Officer, and was then turned over to the Chairman, Dr. Ben Wyman, who is Director of Rural Sanitation and County Health Work.

The cancer program, which is being sponsored by the health group this year for the first time under the direction of Dr. C. L. Guyton, former Colleton County Health Officer, was discussed and it was decided that a survey would be made in the State to determine the death rate of the disease and the progress that has been made in treatment. The survey will also be directed toward information as to available means of treating the disease in hospitals and other institutions.

Other matters of importance discussed were the midwife situation in South Carolina, Syphilis, Malaria and the problem of aseptic tanks and other means of sewerage and water supplies. It was agreed that all widwives in the State should be thoroughly trained and instructed by County Health Departments and registered.

One of the highlights of the convention was the address by Governor Burnett R. Maybank which was delivered on the morning of the closing session.

Dr. S. H. Ross, Jr., of Seneca, left September 25 for New York City where he will take a special course in Ophthalmology at the New York Polyclinic for a year. At the end of that time he will return to Seneca and resume his practice devoting his time to eye, ear, nose and throat work. He was accompanied to New York by his wife and young daughter.

Dr. Rowland Franklin Zeigler, Jr., who moved to Seneca on June 15, after graduating from the Medical College of the State of South Carolina and serving a two year internship in surgery in the McLeod Infirmary at Florence will occupy Dr. Ross' offices until he returns.

Dr. and Mrs. Charles James Lemmon of Sumter announce the engagement of their daughter, Addie Kathryn and Wortham Wyatt Dibble of Orangeburg and Columbia, son of Mrs. Louis Virgil Dibble of Orangeburg and the late Mr. Dibble. The wedding will take place in November. Miss Lemmons is a graduate of Converse College. Mr. Dibble was graduated from the Citadel and took post graduate work at the University of South Carolina and Harvard University.

The friends of Dr. and Mrs. Samuel Lindsay of Winnsboro will be interested to read of the marriage of their daughter Miss Margaret Lindsay to Melvin Vernon Wells of Hogansville, Georgia, Friday night, September 22. The distinctively dignified and beautiful ceremony was performed at 8 o'clock in the Associate Reformed Presbyterian Church.

The bride born and reared in Winnsboro was an honor graduate of Mt. Zion and graduated from Converse College in 1937. She was a member of F. O. R. Sphinx and Senior Order. For the past two years she has taught in the public schools at Everette. The groom, now living in Hogansville, was for several years connected with the United States Rubber Company's plant. He is a native of Eufala, Oklahoma, receiving his early education there. Later he attended Furman University where he graduated. Mr. and Mrs. Wells will make their home in Hogansville.

At the September meeting of the Columbia Medical Society held at Hotel Columbia it was announced that the Richland County Tuberculosis Association would sponsor a series of radio talks on tuberculosis and that members of the medical society, whose names would not be publicized, would make the talks.

Dr. Edward Parker, the elder son of the late Dr. Edward F. Parker, has returned to Charleston and will be associated with Dr. William H. Prioleau in the practice of surgery. Dr. Parker graduated at Duke University and then went through a five year residence service at Vanderbilt.

The Piedmont Post Graduate Clinical Assembly held a very successful meeting at Anderson, September 19-21. All the sessions were well attended by members of the medical profession from South Carolina and surrounding

territories. Officers for the ensuing year were elected as follows: Dr. E. A. Hines of Seneca reelected President; Vice Presidents, Dr. Jack Parker of Greenville (reelected); Dr. Kenneth M. Lynch, Charleston; Dr. Stewart Brown, Royston, Georgia; Dr. Angus McBryde, the Duke Hospital, Durham, N. C. Dr. A. L. Smethers of Anderson was reelected Secretary-Treasurer and Dr. Herbert Blake of Anderson reelected Registrar. Approximately one hundred and fifty doctors were present.

A meeting of the Committee of the State Medical Association, appointed at the Convention held last spring in Spartanburg to represent the Association at the one hundred and fiftieth anniversary of the founding of the Medical Society of South Carolina (Charleston County Medical Society), will be held in Columbia, Monday afternoon, October 9. The celebration will take place in Charleston during the month of December. The personnel of the Committee is as follows: Dr. William Weston. Sr., Chairman, Columbia; Dr. E. A. Hines. Secretary of the South Carolina Medical Association, Seneca; Dr. James R. Des Portes, Fort Mill; Dr. J. B. Latimer, Anderson; Dr. Manly Hutchinson, Columbia; Dr. C. Williams Bailey, Spartanburg and Dr. Douglas Jennings, President of the South Carolina Medical Association, Bennettsville. At this time plans for the Committee's part in this outstanding event will be outlined.

The Edisto Medical Society held a meeting May 24, 1939, 2:00 P. M., at the Hotel Eutaw in Orangeburg. Dr. O. Z. Culler, Chairman of the Program Committee introduced Dr. Eugene Miller of the S. C. Sanatorium who read a very interesting and instructive paper on "The Diagnosis of Early Tuberculosis, Its Treatment and Prognosis." He demonstrated the article with X-ray films.

Dr. L. P. Thackston of Orangeburg, Urologist, reported, using lantern slides, a modified technique for super-pubic prostatectomy with a new combination hemostatic and drainage bag (Thackston bag) which he has recently perfected.

The Society went on record as endorsing the action of the County Health Officer, Dr. G. C. Bolin, in controlling infantile paralysis.

The Seventh District Medical Association met at Bishopville, S. C., September 14, under the Presidency of Dr. D. E. Mitchie of Bishopville and the Secretaryship of Dr. Carl B. Epps of Sumter.

A very interesting scientific program was carried out as follows: Blackwater Fever in Children by Dr. Julian P. Price, Florence; The Urinary Obstructions in Children by Dr. Robert W. McKay, Charlotte, N. C.; Discussion of State Medical Association Affairs by Dr. Douglas Jennings, President South Carolina Medical Association, Bennettsville; Surgical Lesions of the Kidney by Dr. Donald B.

Koonce, Wilmington, N. C.; and Cancer; Its Nature and Control by Dr. Kenneth M. Lynch, Charleston. A majority of these papers were illustrated with lantern slides. Several case reports by members of the Association followed.

After the election of officers the meeting adjourned for dinner where a delicious repast was enjoyed by all present.

Dr. Robert Gibbes of Columbia returned home September 30 after having spent a week in New York. He and Mrs. Gibbes spent the summer at their Myrtle Beach home, and recently Mrs. Gibbes was in Blowing Rock, North Carolina, for a few days.

INTERNATIONAL ASSEMBLY OF THE INTER-STATE POSTGRADUATE MEDICAL ASSOCIATION

This year's International Assembly of the Inter-state Postgraduate Medical Association of North America will be held in the Palmer House, Chicago, October 30 and 31 and November 1, 2, and 3.

This Assembly has been for a number of years one of the outstanding medical meetings of national and even international scope. A full program of clinics and addresses has been arranged for morning, afternoon, and evening of the five days of the Assembly. The dinner scheduled for Wednesday evening will be addressed by Major General James C. Magee, Surgeon General of the United States Army, and Major General Ross T. McIntire, Surgeon-General of the United States Navy, with Dr. George W. Crile, President of the Assembly, master of ceremonies.

Professor Dott. Emnuele Monigliano of the Department of Obstetrics and Gynecology of the Royal University of Rome and Dr. Alva H. Gordon and Dr. John R. Fraser of McGill University constitute the visitors from beyond the bounds of the United States.

Outstanding teachers and clinicians from medical centers throughout the country will provide a full program of interest and practical value, not only to the specialist, but also to the general practitioner. Those who have attended one of these meetings know the high caliber of the programs.

The Saturdays preceding and following the Assembly will be devoted to clinics in the Chicago hospitals. Chicago's hospitals, hotels and central location make it particularly suitable for a large meeting of this kind. All physicians in good standing with their state or provincial societies are cordially invited to attend. A norminal registration fee of \$5.00 admits to all the scientific meetings.

Members of the profession are urged to bring their ladies as an excellent program is being arranged for their benefit by the Ladies' Committee.

A program is being mailed to all physicians in good standing in the United States and Canada. Some of the distinguished members of the medical profession among others who will take part in the program are as follows: Dr. Irvin Abell, Louisville, Kentucky; Dr. Alfred W. Adson, Rochester, Minnesota: Dr. Walter C. Alvarez, Rochester, Minnesota; Dr. George W. Crile, Cleveland, Ohio; Dr. Reginald Fitz, Boston, Massachusetts; Dr. William D. Haggard, Nashville, Tennessee; Dr. Frank H. Lahey, Boston, Massachusetts; Dr. Emil Novak, Baltimore, Maryland; Dr. Fred W. Rankin, Lexington, Kentucky; Dr. James H. Black, Dallas, Texas; Dr. Walter E. Dandy. Baltimore, Maryand; Dr. William J. Kerr, San Francisco, California; Dr. James E. Paullin, allhy

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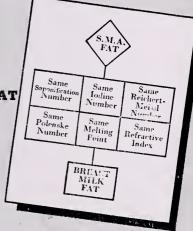
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Atlanta, Georgia; Dr. Philip Lewin, Chicago, Illinois; Dr. George P. Muller, Philadelphia, Pennsylvania; Dr. John F. Erdmann, New York City, N. Y.; and Dr. John R. Fraser, Montreal Canada. Several of these physicians and specialists have been guest speakers at the State Medical Association conventions in South Carolina and other medical gatherings in this State. We hope it will be possible for a good many South Carolina doctors to attend this Inter-State Postgraduate Medical Assembly.

Dr. George W. Crile is President and Chairman of the Program Committee this year and Dr. Chevalier Jackson is President Elect. Dr. William B. Peck, Freeport, Illinois, is Managing Director.

WHAT EVERY WOMAN DOESN'T KNOW—HOW TO GIVE COD LIVER OIL

Some authorities recommend that cod liver oil be given in the morning and at bedtime when the stomach is empty, while others prefer to give it after meals in order not to retard gastric secretion. If the mother will place the very young baby on her lap and hold the child's mouth open by gently pressing the cheeks together between her thumb and fingers while she administers the oil, all of it will be taken. The infant soon becomes accustomed to taking the oil without having its mouth held open. It is most important that the mother administer the oil in a matter-of-fact manner, without apology or expression of sympathy.

If given cold, cod liver oil has little taste, for the cold tends to paralyze momentarily the gustatory nerves. As any "taste" is largely a metallic one from the silver or silverplated spoon (particularly if the plating is worn), a glass spoon has an advantage.

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The National Health Program

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Friends of South Carolina: It would be a privilege to speak in any state that had such a statesman introduce me. As Dr. Hayne has said, I have followed in his footsteps and have sat at his feet and have learned many things. So far as I have been able to observe, I have known no man, in all the states of the Union, who has led a public life so worthy of emulation and imitation. If every other state could produce a man or two with the leadership, with the sincere desire to serve, with the self-forgetfulness and the fine humor of Dr. James A. Hayne, they would be as famous for their medical statesmen as South Carolina has always been for its medical profession. Preceding me as President of the Southern Medical Association were two men who have made some of the greatest contributions to its success and to its welfare-Dr. Robert Wilson a number of years ago and Dr. J. W. Jervey last year. The Southern Medical Association is a friendly organization of people who speak the same language, who are moved by the same emotions, of people who, while deeply interested in science, are as interested in the humanity they serve as in the science which is their master.

In talking to you tonight I am not speaking as President-elect of the Southern Medical Association or in any other capacity except as a physician. As a physician I can say,

Address as Guest Speaker before the South Carolina Medical Association, Spartanburg, S. C., April 11, 1939.

as did a Pharisee of old. I am a physician of the physicians. My people have been physicians for at least seven generations and I imagine before that they were barbers, because that was about the time surgery evolved from the barber shop. Exerything I do I do from the viewpoint of the physician. My father before me was a health officer. He was health officer at the time when physicians were permitted to hold that position if they were willing to work hard enough at their private practice to support themselves, and pay their own official expenses, because the position was considered both a privilege and a responsibility of the practitioner of medicine. It is interesting that in this country, which is the most healthful country on the globe and where people have the longest lives, every effective health plan has been planned and engineered by physicians. Physicians in every county and city in these United States have been members of boards of health and health officers without renumeration, during most of this country's history and they have built for us a generation which has the lowest death rate, which lives for a longer number of years, and which is able to work for a longer number of years, than any other country on the globe. We are the freest profession in our relationship with our people that there is anywhere, and, therefore, it seems to me, that we have earned the right to be heard when matters affecting medical practice and the peoples' health are concerned. We are the best educated and the best trained and the most devoted, saving possibly a large element of the clergy, of any single group that serves humanity. We are public servants in the largest sense of the word, recognized by the state, examined by it, commissioned by it, and permitted to practice our calling because we have shown our qualifications, and practicing under sufferance so long as we conform to the laws that have been made and so long as we conform to the honorable practices that have been built up by our predecessors. We are the heirs and inheritors of their knowledge. Therefore we can talk to our people with the feeling that we have a right to talk to them from the standpoint of leadership in our calling, from the standpoint of confidence in our faith, because we have kept our house clean and intend, God willing, to keep it clean and to give the increasing service which increasing knowledge will enable us to give.

Some fifty or sixty years ago there began to develop new lines of knowledge as to the etiology of disease which opened up before us all increased opportunity and gave us increased weapons and increased facilities for the detection and cure and prevention of disease. Since then no progress that has been made by any other human activity has kept pace with the progress that has been made in the service of the medical profession to humanity. In that time we have developed adjuvants to our profession. Before then we had the pharmacist, but since then the nurse, the various executives and experts in the hospital, and technicians of all kinds and varieties have developed, and all of them have become essential in the treatment and cure and prevention of disease. As I look back to the time when my father came from Cincinnati, after graduating and finishing his internship in 1870, and recall that he invested the sum of \$17.80 in the entire armamentarium that was necessary for him to practice medicine in the country, doing a very large general practice, can the more fully realize the difference between the necessary expenditure of time and money in learning the art and science of medicine and acquiring the facilities with which to practice then and now. The whole picture has changed. The expenditure necessary for the treatment of disease has enormously increased, and at the same time, in many sections of our country, and particularly in our own section, the average per capita income of our people has not increased. Therefore when he and I began practicing we were able to give to our people somewhat the same treatment because we gave them our knowledge and that alone. But now in the treatment of pneumonia, for instance, our knowledge does not suffice; we need to determine the type of the disease, we need to get the serum necessary, frequently we need to have an oxygen tent and the oxygen; we need to have all those things that are necessary and that science has shown to us can save half the cases or almost half the cases that we formerly lost, in addition to those that we were then able to save. Yet in your state and in my state threefourths of those who have pneumonia would be unable to purchase those facilities if they had to pay for them themselves, and consequently they are not purchased. We know that in our Southlands thousands of people die each year from pneumonia because they are not treated with the modern facilities for the treatment of pneumonia, I could multiply such instances endlessly.

To start from an entirely different viewpoint, several years ago some philanthropist devised a scheme—(may I say parenthetically that sometimes I am a little doubtful whether some of these philanthropists are not merely glorified robbers who had acquired more money than they ought to have had and were trying to give some away in order to get a ticket for enternity). This philanthropist devised a scheme that was called the "Committee on the Cost of Medical Care." It was a gigantic undertaking. They tried to determine the cause of the increased cost of medical care. The findings of that commission were monumental. There were twenty-seven great volumes of facts filed. Several of them were prepared by the American Medical Association. No reference library on any other subject of human welfare could be more accurate. Unfortunately, it appears that the group in charge of this undertaking had prepared their recommendations and their verdict before they found their facts; and when their verdict was announced to a waiting public and an apprehensive profession, it was found

so much at variance with common knowledge, and their recommendations were so revolutionary in American life, that we as a whole group arose in our wrath and condemmed it all, although probably three-fourths of their findings were as sound then as they are now. But the proposed compulsory health insurance and other recommendations were so astounding to a profession that had given the service I have before enumerated that we were all astonished and dismayed and mad because, thank fortune, we are still free enough in the United States to get mad when we feel like it and to say what we want. And what we had to say about the recommendations of the Committee on the Cost of Medical Care was plenty.

Many men will go before legislative committees or before university or other groups and say that these things are true about medicine and that here are twenty-seven volumes say to prove they are true. Not that they have read the twenty-seven volumes! The committee that drew up the findings does not appear to have read or understood much of the factual data they themselves had collected. Consequently much of their report was a *non-sequitur*.

Bills have been introduced in almost every legislature in the United States to carry out the scheme of compulsory health insurance. It is to be remembered that any state whose constitution does not prohibit it could have adopted health insurance at any time in the last twenty years. We know it has been adopted in many other countries of the globe and we know how it has worked there. We know we have the healthiest people of any nation. We know the enormous expenditure that it would involve, and, that therefore, we shall continue to oppose it. That is perfectly apparent if you consider other forms of social insurance. Take the old age benefit or take the unemployment insurance and you see the enormous number of subsidiary officials that have been found necessary to explain it and popularize it. Consider the enormous number engaged in the healing art in the United States today. It would take at least one or two supervisors or accountants or inspectors or what not, for each one of them, to see that we did the things we were supposed to do, and the cost of medical care would be enormously increased, and it would show in our tax bill rather than in our improved vital statistics.

Another feature that seems to have escaped general comment is that compulsory health insurance would benefit, if it benefited any at all, only those who are employed, or practically the same group that is now insured under unemployment insurance. That would mean that the indigent and the near indigent and the unemployed would receive no benefit, although they would in the end bear their part of the increased cost from increased taxation. other words, the third of our people who are unquestionably able to carry their share of the cost of medical care and the third of our population who are probably unable to make any contribution to medical care would both be taxed in order to furnish a lower average charge for medical care to the central group, which is unfair and un-American and is to be opposed at all hazards. I am saying these things because these are things on which we are all agreed. We are almost unanimous in opposition to this suggestion. It is made by self-styled economists. I do not exactly know what an economist is, but many of them seem to be this type, who can think up a different way of doing something, whether the present way of doing it is good or bad. Such economists recommend compulsory health insurance, and they have been able to make some shallow thinkers believe in these things.

In our last legislature the Epstein Bill was introduced and referred to the committee on ways and means. I went to the chairman and asked him when he would report it out. He said: "I do not know; I suppose you will want hearings on it." I said: "No, I do not think so." He said: "Why do you want it reported out?" I said: "Well, it will cost \$17,500,000 a year and we doctors are going to get all of it, so we want it started as soon as possible." He said: "Well, it is not going to be reported out if it costs \$17,500,000; I am going to tear it up right now." That is the best answer we have for such impractical extravagant proposals.

It has been suggested that everyone with an income of less than three thousand dollars a year should have medical care at public expense. What would have happened in my good County of Warren, where I began practicing, if that had been the law? There were about twelve people in the county with incomes of three thousand dollars or more, and the rest of them would have been treated as needy.

In 1935 the President had appointed a Social Security Commission and in 1936 the Social Security Bill was passed. By and large that has probably brought about the greatest social revolution that has ever been brought about in any land by a social law. Of course you who are so familiar with history as you are in South Carolina realize that when the Constitution of the United States was written it was written in an agricultural community with the purpose of protecting the property rights of farmers. That was its sole purpose. The general welfare clause was added later, and there was no sort of human interest in it except the thought of protecting the states. It never occurred to anybody that there could be what we recognize now as social legislation.

The Social Service Commission was composed of leading educators and men connected with our universities. When the matter was presented to the President, he said a thing that I think should be repeated to the people generally and to our public. He said: "In there are three doctors, two of them Republicans and very good doctors. One of them is my doctor. The third is a Democrat and not a very good doctor." He said: "That is the man who would be appointed, and I do not believe that such service should be given to the poor of our country." So that recommendation was withdrawn, and for it was substituted Title VI of that law. You are familiar with that law. It has a great deal to do with legislation that will be enacted hereafter. It provides that eight million dollars is to be appropriated to be distributed among the states in three proportions, one varying as the population, one as to special health needs, and one as to economic income—that is, family income or per capita income. The distribution of the eight million dollars is made in that way. goes to the state, and when it goes to the state it becomes state money; it goes into the state treasury and is expended just as if it were

taxes paid by the people of South Carolina or of Kentucky. That money is expended for the extension and improvement of public health services in the state on a plan which is submitted to the United States Public Health Service or to the Children's Bureau (for certain features of Title V) by the state health authority of the state. That plan can provide nothing as to salaries or compensation; it can invade no section of the state in any of its affairs at all. It adds no authority to the Federal Government in any way. It added no single employee to the Federal Government-not one. That is the plan of your health department which you have approved today through the action of your various committees, and that is the plan that has been approved in Kentucky by our health department and the Kentucky State Medical Association; and in our state, as in yours, the relation between them is so close that you cannot draw a dividing line. I cannot imagine any more intimate connection, nor any more proper connection than with the medical profession, for it is their responsibility to save the lives of the people.

That being true, we are then confronted with the recommendations of the National health program made by the National Health Committee to coordinate the health activities of the Federal Government. It will interest you to know (and I do not believe you would think of it unless it is called to your attention, because it is hardly conceivable that intelligent people should have such knowledge in their possession and not coordinate it) that when Dr. Hayne and I go to Washington to seek help regarding nutrition there are nineteen bureaux that have to do with nutrition problems. There are thirty-seven different bureaux of the Federal Government with which we have to deal when we go to Washington to discuss health problems. Yet the Federal Government cannot license a physician and no representative of the United States Public Health Service can come into South Carolina or into Kentucky unless invited. They furnish us with a certain amount of financial assistance and a certain amount of technical aid, and that is all. When the President appointed this committee, which included the heads of several executive departments in Washington, they reduced considerably the amount of overlapping. Among other things was the appointment of a technical committee on medical care. It included three physicians, one economist, and one statistician. The committee gathered together a large amount of factual material.

I realize that I am talking to the best trained and most able group of clinicians there are. You are able to distinguish between what is right and what is wrong; you are able to distinguish between normal temperature and febrile temperature. You are trained to do that thing. I wish you could have had the pleasure of listening to the address made by Miss Josephine Roche, Under Secretary of the Treasury. She might have come from South Carolina; although she did come from Colorado, she has all the femininity and modesty and charm and sweetness that are the marks of your women. I think if I could have just shut my eves I would have been in favor of what she said. But I did not shut my eyes. I listened to it. As I listened, I got this conception that I would like you to feel with me, that here was the voice of the people. Of course, our representatives in Government, regardless of whether we agree with them in a particular statement at a particular time, are the representatives of the people of this country. We can change them at any time we want; we can remove them or re-elect them. We are free to do what we please about them. Here was the voice of a representative of the people coming not to the American Public Health Association but to a physician who had over his door the sign "M. D." Here comes a patient in with a complaint. We know that many patients come in with complaints for which there is no physical basis, no mental basis, no spiritual basis. Our job is to take those patients and strip them stark naked, physically, mentally, and spiritually and find out the truth, whether there is a disease, whether there is a psychological condition, or even whether there is a spiritual condition, Dr. Pendleton, so that that individual can be relieved and restored to normality. I listened as a physician to the complaint of the people. Then I suddenly realized that the people had come to the wrong doctor's office, as so frequently happens now. Often a patient

will go to a surgeon when he should go to an internist. Here I got the idea that the patient had come to a public health official, who does not practice medicine at all, who does not diagnose disease. She said there were forty million people not able to purchase medical care. We do not know whether that is true or not. It may be thirty million, may be ten million, may be one million. But if there is any person needing medical care not receiving it then the people have a right to complain. If they had a complaint they had a right to bring it to their physician. We appointed a committee, of which I happened to be chairman. and took that to the American Medical Association. I am one of those who know the American Medical Association with an intimacy allowed to but few of even its members and its fellows. My father was a member of its committee on reorganization. He had the privilege of speaking in every county of your State on reorganization. Either he or I have been a member of every session of the House of Delegates since that time, and I know the sincerity and disinterestedness and the patriotism and the unselfishness of the men who compose that great body elected as your representatives, among the most distinguished of whom, the most untiring, and one of the hardest workers on its committees has been your Secretary, Dr. E. A. Hines, for many years. Many others of your distinguished members have represented you in the House of Delegates of the American Medical Association.

When we went to the American Medical Association they appointed a committee and made a study of the needs for medical care. It is an exhaustive study. It has cost us in Kentucky thirty thousand dollars. It is not yet completed, but it will be. It has taken an enormous amount of time and an enormous amount of energy. They will shortly have it so every man can read the exact facilities that exist in every county in Kentucky, that exist to give every citizen in Kentucky what he needs in the way of medical care.

When this matter was referred to the Technical Committee last February a year ago it made a report which it called the National Health Program. Unfortunately, that came

after the report of the Committee on the Cost of Medical Care and a lot of these other irritating things that had all been too stupendous to read or understand or consider. It was short, but I would not embarrass you by asking how many have read it. It was asked of the House of Delegates of the American Medical Association how many members had read it, and seven out of one hundred seventy-five had. It is simple and so uncomplicated that when each provision was read, except the one written by the economist, it was indorsed by every single delegate to the American Medical Association by a rising vote. Sections 1, 2, 3, and 5 were approved by a rising vote, with these amendments. The first amendment has to do with the subject of child care and maternal health. The very wise provision was made by the American Medical Association that those expenditures should be made only where needed and that there should be no expenditure for public salaries for practitioners of curative medicine. The man that is going to practice medicine should be paid exactly as he is today.

The second recommendation is in regard to the provision of hospitals and hospital facilities and diagnostic centers. The American Medical Association approved that with the provision that existing hospital facilities should be utilized first before any provision for additional facilities. In Kentucky fewer than half of our hospital beds are occupied at any time, because our people are too poor to pay for hospital service. Until those beds are utilized there should be no increased facilities. and every encouragement of the American Medical Association should be given to the private philanthropic organizations like Catholic Sisters, the Protestants and the Jewish organizations and others which have built these great institutions.

The next recommendation has to do with payment for the treatment of indigent patients. There is not a county or city in the United States today that is not charged with the responsibility of paying for medical services for the indigent among its citizens who are sick. What does that spell in South Carolina or in Kentucky? Have you ever been paid for your services to the indigent? The doctors

in New England cannot understand the agitation, because up there they have always been paid for such service. The burden now has become too great for the profession to carry here. Under this recommendation the mandate is that these people must be cared for, and the only thing that is different is that the service will be paid for. That is as if everybody that owes you came in and paid their bill, which would certainly be a new thing.

The fifth recommendation was for the extension of unemployment insurance to provide for minimum wages when the wage-earner is sick.

There was no difficulty at all about most of these recommendations. I wish you could have heard the representatives of the American Medical Association and the American Public Health Association in conference with that technical committee. It took them only a few minutes for Sections 1, 2, 3, and 5. The only argument was over the compulsory health insurance.

Following all this, a bill was introduced the other day into the Senate by Senator Wagner, of New York, who has introduced most of the social legislation. Senator Wagner is a very able man, a very learned man, and I think, frequently a very impractical man. The bill as he introduced it provides for the administration by the United States Public Health Service, by the Children's Bureau and by an added agency. Instead of consolidating Government agencies, as has been the recommendation of every President for the last fifty years, he has added one.

There are numerous other provisions in this first draft of the bill. But let us take courage from this fact. I assume that not many of you are legislators or members of city councils, but most of you know that when the legislation is introduced it is not introduced in its perfected form but hearings are held and bills are revised and amendments are added. I imagine it will take several sessions of the Congress to determine the respective merits of those who will represent different ideas and ideals for the enactment of a law making effective the National Health Program. But in the meantime let us keep our powder dry and use our wisdom to help construct a program

that will preserve and protect the health of the people of this country and not say, like our British and French brothers, "Thus far shall you come and no farther." Let's not be ignoramuses. Let's retain that which is ours, the confidence and love and affection of our people. We are their only hope. We cannot let them down; we cannot betray them; we cannot turn them over to the paper politicians who would grab power by controlling the greatest profession on this globe. It is ours to control. Let us unselfishly, patriotly and determinedly retain our control. Let's keep our people the healthiest and the happiest and let's help them to retain their health, physically, mentally, spiritually; that they may retain for themselves the blessings of freedom and that we may continue to be an unregimented, uncontrolled, liberty loving people making our own destiny, living in peace and good-will on earth, and hastening the day when the kingdom of God shall be realized on earth and when the public mind shall not be swayed by passions and prejudices of little men.

Present Knowledge of the Prophylaxis and Treatment of Tetanus * *

E. B. SAYE, M. D., SPARTANBURG, S. C.

"There is nothing more remarkable in the whole history of disease than that, in consequence of a trivial wound of one of the extremities, a healthy man should be seized with a spasmodic affection of the muscles of the jaw; that this spasm should extend to the trunk; and that it should be followed by generalized convulsions which will in the majority of instances speedily end in death." Thus wrote Erichsen (1) before the bacteriological foundations of our knowledge of tetanus were laid. Unhappily, the same terrifying events are seen today, fifty-five years since Nicolaier made known the bacterial cause of the disease.

Nevertheless, much progress has been made in the study of tetanus. We have comprehensive information concerning the nature of the disease, and possess ample knowledge to prevent its occurrence, if only persistent application of the means at hand might be made.

The unpretending purpose of this paper is to present a current summary of our knowledge of the prevention and treatment of tetanus, as reflected in the writings of experienced clinicians and investigators.

†Read before the Piedmont Postgraduate Clinical Assembly, Anderson, S. C., September 20, 1939.

For a preventable disease, the death rate from tetanus is high. It has been consistently near 50 per cent in many widely scattered There were 205 cases at the Los Angeles County Hospital, 1921-1935, with a gross fatality of 56.5 per cent. Thirty-three cases at the Massachusetts General Hospital were reported by Miller and Rogers (2) with a 42 per cent mortality. United States Census Bureau Reports, 1925-1937, show 16,212 deaths from tetanus (1.06 per 100,000 population) (3). In South Carolina, the State Health Department recorded 91 deaths for the fiveyear period, 1933-4 through 1937-8, four of these being from Spartanburg County (4). Five deaths from tetanus appear among my records of 427 consecutive autopsies at the Macon (Georgia) Hospital, July, August, 1938.

We may better appreciate the methods of preventing tetanus and alleviating the symptoms when they arise, if we recall the salient facts concerning the causation and evolution of the disease.

There are no gross or microscopical lesions characteristic of tetanus. Lecturing at Guy's Hospital more than a century ago, Wilkinson King used to remark when a postmortem examination was to be made upon a patient who had died of tetanus, "We will now demon-

^{*}From the Pathological Laboratory, Spartanburg General Hospital, Spartanburg, S. C.

strate a case of healthy anatomy, for there will be no morbid appearances except congestion of some of the organs owing to accidental circumstances"(5). Death results from asphyxia brought about by tonic spasm of the respiratory muscles, from exhaustion following convulsion, or, occasionally, from aspiration pneumonia.

Tetanus follows a variety of injuries, notably: puncture wounds, made by such objects as splinters or nails; lacerated wounds; crushing injuries; wounds produced by firearms and other explosives, particularly when fragments of clothing are driven into the flesh, perhaps through soiled skin; compound fractures; burns; infections of the umbilical stump in the newly born; septic abortion; and, rarely, infections after surgical operations.

The immediate cause of the disease is the Clostridium tetani, commonly called the tetanus bacillus. This bacterium is a normal inhabitant of the intestinal tract of some herbivora, especially the horse. It is, therefore, frequently found in superficial soil, particularly in manured earth. It is by nature a saprophyte rather than an invader of healthy tissue. It is a strict anerobe, that is, an organism which grows best in an environment deprived of free oxygen. It can develop spores which stubbornly resist destruction, and which retain the latent vitality of the microbe for months, in the soil or encapsulated in animal tissue. It thrives in septic wounds. Tissue damaged at the inception of injury provides a medium suitable for the growth of tetanus bacilli. Other bacteria, carried into the wound on foreign particulate matter, consume the available oxygen and thereby promote the life activities of the tetanus germs. Although suppuration is not a conspicuous feature of tetanus, pyogenic cocci in small numbers, together with tetanus bacilli, may frequently be demonstrated, at postmortem examination, about a splinter or other foreign body.

Restricted to the site of injury, the tetanus bacilli secrete a most intense poison, the tetanus toxin, which is distributed throughout the body by the circulating blood. From the blood, and also from the immediate vicinity of the wound without the intermediation of the blood, the soluble toxin is absorbed by end-plates of

motor nerves. Tetanus toxin has a strong predilection for motor nerve cells. Indeed, all of the symptoms of tetanus, and even the death of the victim, are but expressions of the profound intoxication. Abel (6) believes that toxin reaches the spinal cord and brain almost entirely by way of the blood and lymphatic vessels. Boyd(7) says that toxin can reach the central nervous system only by way of peripheral nerves. The toxin, once united with nerve cells, becomes indissolubly bound to them and incapable of neutralization by tetanus antitoxin, which can counteract the toxin in the blood stream. There is no natural immunity to tetanus.

Tetanus antitoxin, or antitetanic serum, has, since its introduction by Von Behring and Kitasato in 1890, been our chief reliance in the prevention of tetanus, and almost the sole remedy to offer even a flickering hope of cure in established cases of the disease. Horses and other susceptible animals may be made immune to tetanus by repeated injections of gradually ascending, non-fatal doses of tetanus toxin. The circulating blood of the immune animal, or the serum separated from it, will then contain antitoxin, capable of uniting directly with tetanus toxin and making it nonintoxicating. The transfer to a person or animal of protective properties that have developed in the blood serum of another animal is called passive immunity. Given to a recently injured person, the antitoxin will protect the individual against the effects of toxin that may be produced in the wound by living tetanus bacilli.

Antitetanic serum earned merited praise in the World War. During the retreat from Mons, so many cases of tetanus occurred that immediate steps were taken to cope with the peril. A prophylactic dose of tetanus antitoxin was given to every wounded soldier, no matter how slight the wound. The incidence of tetanus among the wounded British soldiers in September, 1914 (9 cases per 1,000 wounds) was 18 times as large as in October, 1918 (0.5 cases per 1,000 wounds). The death rate among the unprotected and unrecorded group, according to Sir David Bruce(8), was 53.5 per cent; among the group protected by inoculation, it was 23 per cent. Not only so, but the incuba-

tion period was lengthened, being 46.5 days among the inoculated, and 10.9 days among the uninoculated. It has often been observed that the probability of recovery is directly proportional to the increased time that elapses between the receipt of the wound and the appearance of symptoms. Vener (9) concluded that the greatest number of deaths occur within the first three days of hospitalization; if a patient could be kept alive nine days following admittance, he would have a 90 per cent chance of recovery.

Three important principles govern the prevention of tetanus: the prophylactic administration of tetanus toxoid to uninjured, well persons: the immediate thorough surgical treatment of every traumatic wound; and the prophylactic injection of antitetanic serum promptly after every accident liable to be followed by tetanus, unless the recipient of the injury is known to have received previously sufficient toxoid to make him immune.

The first important measure in the prevention of tetanus, says Rosenau(10), is the surgical treatment of the wound as soon as possible. The wound should be freely opened and all foreign matter and devitalized tissue completely removed. DaCosta(11) says: "When tetanus exists, always look for a wound; if one is found, open it to the very depths; if there are sloughs, cut them away, paint the wound with tincture of iodine, and secure drainage by leaving the wound open." The homely dictum, "An ounce of clean surgery is worth a pound of antitoxin treatment," may pertinently be repeated(12).

Before the prophylactic dose of antitoxin is given, it is advisable to inject a minute quantity of antitoxin intradermally, to make sure that the patient is not unduly sensitive to horse serum. Fifteen hundred units, given early, is probably ample for the prevention of tetanus. If the injury persists, however, or if there is any suspicion of tetanus, the dose should be repeated within a week, since delayed tetanus may follow the administration of only a single dose of antitoxin. Klopp(13) states that he has not known tetanus to develop after two immunizing doses have been given. When it becomes necessary to remanipulate bone fragments in cases of com-

pound facture, and whenever any secondary operation is to be done several days after a traumatic injury, an additional prophylactic inoculation should always be given beforehand.

Clinicians differ in opinion as to the amount of antitoxin that is needed in the treatment of tetanus. McFetridge(14) says that some patients die too promptly to get enough antitoxin, while others survive long enough to receive too much. A case of average severity, according to Boyce and McFetridge(15) will require about 75,000 units. They suggest that 20,000 units be given intravenously, and 2,000 units into the local wound on the first day; followed by 20,000 units intramuscularly on the second and third days; and 10,000 units intramuscularly a week later. Encirclement of the injured parts, where practicable, by multiple injections of antitoxin, is practiced by some authorities, in the hope of blocking absorption of the toxin that has diffused into the immediate vicinity of the wound. Encouraged by the clinical results, some surgeons regularly inject a part of the dosage into the spinal canal after lumbar puncture. Intraspinal injections may cause a complicating aseptic meningitis. Bates (16) gives a total dosage of 40,000 units subcutaneously or intramuscularly, and 7,500 units intraspinally, all on the first day he sees the patient. Vener(17) has treated 100 consecutive cases with a mortality rate of only 29 per cent. His routine includes 200,000 units of antitoxin for every patient, regardless of age or other factor, 40,000 units of which is given intracisternally. Yodh, of Bombay, India, who also employs the cisternal route for the administration of antitoxin, cites a fatality of 50.6 per cent for 443 cases so treated (18). The introduction of serum into the cisterna magna is too formidable a procedure for any but the most highly skilled hands. Those of us who have reason to doubt the precision of our technique may well omit from our routine an undertaking so hazardous.

Reminded by the postmortem appearance of the local wounds that I have seen in cases of tetanus; and recalling the fact that toxin is continually produced around foreign bodies, and where necrotized tissue persists; I must believe that prompt surgical treatment of the wound is urgently necessary for the relief of tetanus. Accessible wounds, including apparently healed wounds, should be freely opened, cleansed, and divested of foreign debris. The patient should, of course, be previously fortified against the shock of operation by ample narcosis, and against the liberation of fresh toxin by the administration of antitoxin. Surgical opinion varies widely as to the use of chemical antiseptics in the local wound. Bates (16) applies pure carbolic acid to the wound itself, and injects a 2 per cent solution into the adjoining tissues.

Because of the sustained conscious anxiety of the patient, and because of his extreme responsiveness to external sensory stimuli, a state of semi-narcosis should be maintained throughout the acute stage of the illness. Bates (16) has kept his patients continuously under the influence of Sodium Amytal for several days without bad effects. Avertin has been extolled by certain authors, while some prefer chloral hydrate or other sedative drug. The use of sedatives should precede the administration of antitoxin, the dressing of wounds, and other procedures likely to cause reflex disturbance.

There are other therapeutic requirements of considerable importance. A nurse capable of entering understandingly into the difficulties that beset the patient is truly an asset. Efforts to exclude light, and to eliminate avoidable noise, are worth while. Careful cleansing of the mouth to prevent oral sepsis, and changing the posture of the patient, may lessen the danger of pneumonia. Feeding requires patient attention. At first, it may be desirable to use dextrose solution by proctoclysis, or intravenously, remembering always that massive intravenous injections may precipitate pulmonary edema or cardiac failure.

Despite the remarkable success that has attended the use of tetanus antitoxin, there are numerous limitations that hinder its full acceptability. The protection lasts only a short time, probably about 10 days. The effect diminishes with succeeding doses. Antitoxin may make one sensitive to the future injection of any product that contains horse serum. It cannot be safely administered to those who are already hypersensitive. It is a question,

Zinsser(19) says, whether it is possible readily to desensitize man in a short time. Serum sickness, slight or severe, develops in 15 per cent of persons who receive tetanus antitoxin. (20). Muscular paralysis, fortunately of rare occurrence, has been reported following the injection of antitoxin. Trivial wounds sometimes lead to the occurrence of tetanus, and the physician is not always culpable if he fails to administer antitetanic serum to every patient with a slight wound.

The pioneer workers, including Von Behring, realized the inadequacy of any form of passive immunization, and the desirability of some method of active immunization. By active immunity is meant the protection that resu'ts from introducing, through other channel than the digestive tract, of an antigen. An antigen is any substance that induces the formation of specific antibodies. Tetanus toxin and tetanus toxoid are antigens, and the antibody that results from their injection is tetanus antitoxin. Obviously, active immunization is not a suitable means of treating disease, since the production of antibody in response to the injection of toxin occurs slowly and gradually.

The use of tetanus toxoid for the purpose of actively immunizing well persons whose occupations predispose them to tetanus infection, is growing in favor among medical men in this country. Already, diphtheria toxoid is preeminently the method of choice for the prevention of diphtheria. Zinsser(19) hails the recognition of toxoid as the greatest advance in the investigation of toxins since their discovery. Ramon, in 1924, prepared a tetanus toxoid by adding formaldehyde solution to tetanus toxin. This modified toxin, thus deprived of its poisonousness, retains the capacity to evoke antibody formation when injected parenterally into a susceptible animal or human. It was later learned that toxoid gave less severe reactions when further treated with aluminum potassium sulphate. Alum precipitated toxoid is the preparation most commonly employed at present. Two injections of 1 cc. each are given at intervals of 6 months, followed by a third dose at the time an injury is sustained. If an injury, of such character as to suggest the probability of tetanus infection, occurs before basic immunity is established, it may be well to supplement the toxoid immunization by a single dose of 1,500 units of tetanus antitoxin. If one has been actively immunized by means of toxoid, and at some later date receives an injury, it is apparently not necessary to give antitoxin at all. Another dose of toxoid, given at the time, will serve, it is believed, to bring out all the antitoxic defense necessary to protect the individual. According to Jones and Moss(21), a stimulating dose, given at the time of injury, will raise the antitoxin content of the blood to a level equal to that brought about by the administration of 1,500 units of tetanus antitoxin.

Tetanus toxoid seems to possess certain definite advantages: It is harmless, and, since it contains no serum, entails no risk of serum sickness or anaphylaxis. It apparently induces sufficient antibody formation to protect one against tetanus. French military surgeons found, in nearly all soldiers who had received toxoid, sufficient antitoxin to assure immunity for at least a year. (22)

Since 1936, toxoid immunization has been compulsory for all soldiers and animals in the army of France. It is estimated that 1,500,000 persons, soldiers and civilians, have received injections of toxoid, in France. No case of tetanus has been reported in any person who has received toxoid, and the disease has practically disappeared from the horses of the French army. Recommendations have been made to use tetanus toxoid on a voluntary basis in the British army, and its introduction in the U. S. Army is under consideration.

Active immunization by means of tetanus toxoid would seem to be especially desirable for soldiers; for persons liable to suffer occupational wounds, such as agricultural workmen and mechanics; and for children. The majority of cases occur between the ages of 5 and 15 years.

For all children who require active immunization against diphtheria, it would seem advantageous to employ combined tetanus and diphtheria toxoid. The combination apparently increases the efficacy of both toxoids. It was shown by Hektoen that the simultaneous use of multiple antigens does not impair the antibody response to any of the individual antigens. Cooke(23) finds that the use of com-

bined tetanus and diphtheria toxoid, the method now employed at the St. Louis Children's Hospital and the Washington University Children's Clinic, gives added protection without increased effort.

The principal disadvantages of toxoid prophylaxis are: The duration of the immunity is not definitely known, and probably varies. There is no easily performed test whereby the extent of immunity to tetanus may be determined. It is necessary to reinforce the toxoid immunization with a dose of antitoxin if an injury occurs before active immunization has been completed.

The use of tetanus toxoid, for the active immunization of the population generally, must await further trial by large clinics and health departments. They, by inoculating large groups of individuals and analyzing the results, should in time afford us indisputable proof of the usefulness and limitations of tetanus toxoid, singly or combined with diphtheria toxoid.

In conclusion, certain facts should be reemphasized: The prophylactic value of early and thorough attention to the wound; the therapeutic necessity for adequate exposure and cleansing of the wound when symptoms exist; the importance of ample sedation and sufficient antitoxin in the treatment of the disease; and the advantage of tetanus toxoid for the permanent protection of children and others who may be exposed to the hazard of tetanus infection.

If this brief review of the prevention and treatment of tetanus should help any practitioner to meet some problem more confidently, I shall be unceasingly grateful for the good ground upon which the small seed has fallen.

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Cecostomy in the Treatment of Cases of Advanced Appendicitis Report of 28 Cases

AVM. H. PRIOLEAU, M. D., F. A. C. S., CHARLESTON, S. C.

The main objectives in the treatment of cases of advanced appendicitis are the prevention and control of generalizing peritonitis and the limitation of infection in the region of the appendix. Whereas the two are of common origin and thus more or less associated, they can to a certain extent be considered separately.

A procedure which has been found effective in these respects is that of cecostomy. Its use is probably more general than would appear from references in the literature. Eason and Watson consider it valuable in preventing distention, and advise its being performed at the primary operation, before the occurrence of atony and dilatation. E. S. Jones calls attention to the fact that in seriously ill post-operative cases of advanced appendicitis recovery commonly follows occurrence of a spontaneous fecal fistula, and deduces that it is reasonable to expect that a previously made

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direct fecal fistula in the form of a cecostomy would be beneficial. He reports a series of 75 case with 1.4% mortality. Dorrance made the same observation and reports 30 cases with no mortality. He advises cecostomy in all cases of rupture in which drainage is indicated.

In the performance of cecostomy a rubber catheter is passed into the cecum through the stump of the appendix and held in place by a pursestring suture or simple ligature. It is brought out through the wound along with the drains. Should the operative incision be near the midline, the tube is brought out through an additional incision to the right. No attempt is made to bring the cecum up to the abdominal wall, or to pass the tube through omentum.

In about 175 operations for acute appendicitis, eccostomy was preformed in twenty-eight cases, the youngest 2 and the oldest 60 years of age. In each case rubber tissue drains were placed next to the parietal peritoneum, down to the pelvis and along the right lumbar gutter,

and brought out alongside of the cecostomy tube.

Cecostomy was performed in cases of appendicitis with perforation or gangrene and well developed peritonitis of varying extent, and in a few cases of localized abscess formation. In brief it was performed in all cases in which drainage of the peritoneal cavity was used. In some cases there was profuse discharge of intestinal contents through the tube, in most cases only moderate, and in a few practically none, thereby indicating that cecostomy had a variable effect upon the prevention of distention of the intestines. The tube was passed into the cecum for discharge by rectum or withdrawn on about the tenth day. In one case there was drainage of fecal contents for fourteen days after operation and in another for thirty, but in no case was there a fistula which required operative closure. In some cases there was pelvic induration and in a few evidence of subdiaphragmatic inflammation, but in no case was a secondary operation necessary for drainage of an abscess. In all cases operation was performed as soon as the general condition of the patient made it advisable, usually within a few hours after admission. Fluid was not administered through the cecostomy tube, on the assumption that it would not be conducive to the maximum rest of the intestines.

When the diagnosis of appendicitis was reasonably certain, the McBurney muscle splitting incision was used in preference to a more medial straight incision. It results in less splinting of the abdominal wall with correspondingly less interference with respiration. It is less subject to separation in case of distention, and to subsequent herniation. permits placing the drains along the lateral wall of the abdomen so as not to involve loops of small intestine. Its closure requires little or no suturing, thus not constricting the drainage tract, and on the same account it is much less subject to wound infection with fascial slough. Except in rare instances it affords adequate exposure. In a few cases in which the diagnosis was in doubt a straight incision was used, and the cecostomy tube and drains brought out through a more lateral incision. In the one case in which the tube and drains were brought out through the straight incision a hernia developed.

In this series of 28 cases there were two deaths, a mortality of 7.1 per cent. In one case—colored male 32 years of age—the onset of the illness was nine days before admission. Persistent vomiting, lack of bowel movements, and the presence of chills and fever were the outstanding symptoms. There was induration in the pelvis, and the ileo-cecal region was involved in an inflammatory mass. Death occurred on the eighth day after operation. A limited post-mortem examination showed no accumulation of pus, but an involvement of the small intestine in an inflammatory mass likely causing obstruction.

In the other case—colored male 26 years of age—the disease had existed 7 days before admission. Persistent vomiting and absence of bowel movements were outstanding symptoms. with a diagnosis of peritonitis of undetermined origin and with an inflammatory mass in the left lower quadrant a low left paramedium incision was made. An extensive peritonitis originating from appendicitis was found. The patient developed broncho-pneumonia and died five days after operation.

COMMENT

Cecostomy prevents increased pressure in the cecum and enables even slight peristalsis to be effective in propelling the intestinal contents through the ileo-cecal valve. It affords an exit for the intestinal contents which obviates the necessity of their traversing the length of the large intestine, which is frequently sluggish in such cases. In these ways it tends to prevent distention, thus favoring a better blood supply to the intestines, enabling them to combat more effectively the peritonitis.

By preventing pressure and affording a ready passage to the outside, cecostomy prevents such occurrences as leakage from the stump, which results in abscess formation, peritonitis, and fecal fistula. The fistulous tract caused by the cecostomy tube is direct and relatively free from infection. It generally collapses upon removal of the tube.

Cecostomy is a simple procedure readily performed. In cases of advanced appendicitis, its potentialities for good are great. Its possibilities for harm are very slight.

SUMMARY

By preventing increased pressure within the cecum in cases of advanced appendicitis, cecostomy tends to limit the infection both local and general.

The report is based upon a series of twenty-eight cases.

DISCUSSION

Dr. Roger G. Doughty, Columbia:

I want to thank Dr. Prioleau for the privilege of opening the discussion on his paper and to congratulate him upon the paper itself as well as upon his results. I am somewhat handicapped in trying to discuss the principal theme of his paper, because I have followed this procedure only once. The bad outcome was not the fault of the procedure. I used it in a man who had an obstruction in his ileum, up high, and also an obstruction down lower. I put a tube in and it did not do a bit of good. Of course, it could not. I have never used this procedure since. The best way for me to discuss this paper is to discuss the matter of appendicitis, which is one of the most important matters before the medical profession today.

I have several slides I should should like to show you. The first one gives a report by Burger & Tobert of California. They had 449 cases of acute appendicitis with thirty deaths, giving a mortality of 6.7 per cent. I want you to particularly note the percentage of deaths, which is altogether too high, as shown by Dr. Prioleau's statistics and those for the state of South Carolina as a whole. In this series there were 320 unruptured, and 129 ruptured. Notice the percentage. That is approximately 28 per cent. Drs. Lehman and Parker in Virginia, in 1938 reported 1,029 cases, of which 789 were unruptured and 240 were ruptured. Their mortality over all was 3.27 per cent, part of which occurred in the unruptured group. If we take somewhere between these two percentages, 3.27 per cent and 6.7 per cent, as the average result the country over we shall probably arrive nor far from the truth of what that average is.

I have taken my own small group and tabulated it in this way. Acute ruptured and operated upon 66, acute unruptured and operated upon, 406. Now, my proportion is all out, compared with the California report. In other words, I have about 14 per cent ruptured in my whole group whereas in 449 cases, a few more cases, they had over 25 per cent ruptured. I do not know whether it is because I am calling things acute appendicitis that are not acute appendicitis. I do not think I am. My criterion of acute appendicitis is an appendix which contains pus, is gangrenous, or is fibrin-covered.

Suppose we cut out 200 of these cases of acute appendicitis; the mortality is still low according to

the California report—6.7 mortality, which corresponds closely to Dr. Priolcau's. There was one case of acute appendicitis in a child, with a ruptured appendix, which was not operated upon. For this I must apologize. The child died, and that brings the mortality in the ruptured group to 7.5 per cent. Acute unruptured but drained, 95 cases, with 4 operative deaths; 5 deaths all told.

That is the result without the eccostomy, without the enterostomy, except for one of the four cases that died. I do use the Levine tube & suction quite frequently, not routinely. I do not believe I have had any patients in whom the distention was not relieved by simple suction.

These are supposed to be some colored pictures of operative fields, but I do not believe it is worth while to show them. I was simply going to show you the drainage of the peritoneum cavity of which Dr. Prioleau spoke, using the wall of the abdomen on one side and the omentum on the other to protect the drain from the gut. Pulling the omentum over and allowing your drain to go down to the bottom of the infected area I believe is one of the secrets of the avoidance of distention. Proper and adequate drainage, without having the drain irritate and paralyze the gut, is of supreme importance, to my mind, in the avoidance of complications of distention and ileus.

Dr. G. T. Tyler, Jr., Greenville:

I have not used this method, but I am impressed with the statistics presented from the reported cases, I wonder whether the conclusions that these gentlemen have reached or the deductions from their results are the logical ones. That is why I question the method.

In the first place, it has been said that the cecum is the area where much absorption occurs. The right half of the large bowel, we all know, is the area where the greatest absorption takes place—of water only. We know that the intestinal content, as it reaches the left side of the colon, becomes more or less dry. Occasionally dry masses are found in the rectum difficult to expel. The important things from the intestinal content—the proteins, fats, carbohydrates, and toxins—have all been absorbed from the small bowel.

One of the early signs in peritonitis is distension, which means atony. This is confined to the small bowel. Distension in the large bowel is not present except in the late stages of peritonitis. Opening the cecum allows gas to escape. This will happen if the normal cecum is opened. It is claimed that those patients in whom fecal fistula occurs recover. That is my experience also; but I think the reasoning there is erroncous, because fecal fistula is due to the rupture of the sutures in the cecum. That takes place four or five days after operation—after the critical period of the first two or three days has passed. I regard fecal fistula as merely an incident in the patient's recovery, not as a causal factor. The

proponents of this method also drain the peritoneal cavity, use the duodenal catheter, and give fluids parenterally. With enterostomy, which I have frequently used with happy results, I feel we have a better chance for relieveing distension than in draining the cecum. A much more logical method would be to push the catheter through the ileo-cecal valve, by which the ileum may be drained, than to drain only the cecum.

The reasons given I think are sufficient for not using this operation. Yet it does not mean that I shall always oppose it. We are all working for the saving of human life; and if these gentlemen by the use of cecostomy get the excellent resu'ts Dr. Prioleau has shown, I should not hesitate to use it also.

Dr. Carl B. Epps, Sumter:

I also am ignorant of this method. I have been hearing of it and have seen a few articles on it from time to time but have not used it myself. I notice the essayist said in his active cases of appendicitis, I think including advanced and ruptured cases, he operated usually within a very few hours after they entered the hospital. In my opinion that has a great deal to do with his excellent mortality rate. When I was in Chicago (17 years back, I think it was) we were doing operations on dogs and the cadaver and the professor asked us one day when we would operate on appendicitis. Some of the men said they would put it off until a certain time; until the patient got in good shape, and the blood count showed up right, etc. Then he asked me, and said that my practice was to operate when I diagnosed it. He said that was his practice also. There has been a lot of discussion about that, but I think, generally speaking, the time to operate for appendicitis is when you diagnose it.

As to this tube, I wonder of what he'p it is. I wonder if you are not creating a certain amount of danger there. Suppose the cecostomy tube slips out. Then you would have the same condition as you had in the beginning, where you have an opening direct into the abdominal cavity and fecal matter coming out. Another thing I think is of importance. Something was said a few years ago about sticking in a tube and leaving the appendix in there when the appendix is already ruptured and there is an abscess. We do not do that anywhere else; we do not leave a focus of infection. We do not do that with an abcessed tooth, or with an infected bone. So my invariable procedure is to take out the appendix if the condition of the patient permits. I never leave the appendix in there because of the local condition. I might leave it in because of my patient's being practically moribund, when manipulation and the prolonged operation would make it more injurious to the patient to take it out. But I do not leave it in because of the local condition that I find.

I am very much interested in this article and I

think it is something that is going to have to be worked out by time.

Dr. T. B. Reeves, Greenville:

I should like to congratulate Dr. Prioleau upon his results. The paper was very interesting to me. I just wish to commend what he has to say regarding the treatment of cases like this. Any case of ruptured appendix is a bad situation; we all know that. During the past seven or eight years we have been operating on all cases of peritonitis. Until seven or eight years ago these desperate cases would come in looking as if they were going to die, and we had no chance to do anything for them; we let them go ahead and die. I am sure that we let a good many die that ought not to have died had we operated on them. For the last seven or eight years we have been operating on all of them with peritonitis. My associate, Dr. Boggs, and I have done around fifty-four or fifty-five of these cases. am talking about bad ones; we do not do it in the average ruptured appendix, but in desperate cases where we have peritonitis, we put a tube in the cecum in addition to putting a tube in the pelvis, and I am sure we have saved a good many lives, and I feel sure we have not done any harm. As to the catheter slipping out and spilling fecas in the peritoneal cavity, I think this is rather far-fetched, and I do not believe it can happen, for after twentyfour or forty-eight hours, nature has walled off the tube, and any drainage is going to come outside.

The statistics that Dr. Doughty brought out regarding cases of ruptured appendix are unusually good. I do not believe there is another man in the State that I know of, who is getting such good results. He is either not operating on those bad cases or is probably passing up some that ought to be operated on.

I do not see any objection to the operation, and if offers a lot of good advantages.

Dr. Doughty:

For the doctor's information, I should just like to say that every case of appendicitis that I have seen that was ruptured was operated upon except one case, which was included in the statistics.

Dr. Prioleau, closing the discussion:

I appreciate very much the generous discussion. I shall not be able to cover the many points mentioned. In the first place, I wish to make it clear that the cecostomy is simply an additional procedure. The patients are treated just as Dr. Doughty suggested. For peritonitis we use the Levine tube and other appropriate measures. There is no question about the fact that eccostomy, if performed according to our practice, in quite a number of cases is unnecessary, but there is no way by which to tell when it is necessary. As Dr. Reeves pointed out, no harm results from it. The enterostomy has very much the same effect at times; however, it has troubles of its own.

Onc way of preventing the tube from slipping out

is by the use of a mushroom catheter. Should you use a mushroom catheter, it is better to push it into the cecum and let it pass by rectum. Should there be delayed passage of the tube, the patient and

his relatives may become nervous about its whereabouts; however, X-ray examination will show it bobbing up and down in the cecum and it will eventually pass.

Influenzal Meningitis Treated with Sulfapyridine--Report of Two Cases with Recovery

J. I. WARING, M. D., CHARLESTON, S. C.*

Recovery of two patients with influenzal meningitis treated with sulfapyridine has occurred recently at Roper Hospital. Eighteen other patients with the same disease (indicated by smear or culture of spinal fluid) treated in various ways during the past ten years have all died. Specific serum was not used

in any case, but sulfapyridine was used in 3 and sulfanilamide in 6 of the fatal cases. Dosage was estimated at 1 grain per pound per day. It is doubtful that the dosage in any of the fatal cases except one was adequate. The cases treated unsuccessfully with sulfapyridine may be summarized briefly as fol-

Age	Sex	Race	Days III Before Admission	e Condition on Admission	Blood Concentration	Remarks
6 mos.	М.	Negro		Poor Bronchopneumonia	0.8 mg. 17th day of illness	Treatment started 10th day of illness
3 yrs.	М.	Negro	14	Poor Convulsions	0.9 mg. 5.5 mg. 14.8 mg. 3rd day of treatment	Improved temporarily, but gradually declined
5 mos.	F.	Negro	21	Pertussis Bronchopneumonia Diarrhea	7.5 mg. 3rd day of treatment 4.09 mg. 7th day of treatmen	
		Those	r treated unsucc	essfully with Sulfa	milamide were as fold	loves :
3 yrs.	Μ.	Wh.	15-20 days	Poor		No response
8 mos.	м.	Negro	?	Poor	2. mg. 8th day of treatment	Spinal block, Lavage of canal. Jaundiced Liver degeneration at autopsy
1 yr.	М.	Negro	1?	Dehydrated Stuporous		Died 2nd day
7 mos.	F.	Negro	?	Poor		Treated for only 4 days after admission
1 yr.	М.	Negro	14	Poor		Died 10th day after admission
5 mos.	М.	Negro	21	Poor		Died 10th day after admission

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The histories of the two patients who recovered are as follows:

Case 103238—A female Negro child aged 6 years was admitted to Roper Hospital on March 25, 1939. Her father stated that she had had a "cold" for about a week and high fever for 4 days. She had vomited twice. Two days previously the fever seemed less, but on the day before admission it became higher and the pat ent developed stiffness of the neck and extreme irritability.

She was a poorly nourished child in evident distress. Her pharynx was injected. There was marked stiffness and retraction of the neck. The thighs were flexed, the arms adducted and flexed. Kernig's sign was marked and Brudzinski's sign was present, though slight. Patellar reflexes were not elicited.

The urine was negative, hemoglobin 11gms. (73%), leucocytes 8,200, with 69% neutrophiles and 31% lymphocytes. Three subsequent counts ranged from 4,400 to 6,050 leucocytes. Blood and spinal fluid Kolmer and Kline tests were negative. The colloidal gold curve was negative. The spinal fluid was under pressure, cloudy, with 1120 cells (85% polymorphonuclears) increased globulin, no sugar. B. influenzae was found in the smear and was obtained by culture on two occasions.

The patient was given 7 1/2 grains of sulfapyridine every four hours (about 1 grain per pound per day) for 24 days. On the 6th day of treatment the blood concentration of sulfapyridine was 3.3. mg. Three days after medication was started the spinal fluid count was 114 cells, 2 days later it was 230, 2 days later it was 220, and 6 days after that it was 156. In the last the lymphocytes were 83%. Fever did not exceed 101° F. (rectal) during the 8 days in which it was present.

This child improved steadily during her stay of 41 days in the hospital. At first there was considerable general rigidity, complaint of headache, difficulty in administering sufficient fluid, and occasional vomiting. Before she left the hospital she was alert, walking about, and apparently well except for an obvious deafness which was not explained by examination of the external or middle ear.

Case 103675—A Negro boy, aged 22 months, was admitted to Roper Hospital on April 19, 1939. He had a cold and fever for 5 days.

4 days before admission he complained of pains in his legs and was unable to stand. The past history was negative.

He was a well developed boy weighing 26 1/2 pounds. He showed a slight nasal discharge. He lay with his head turned to the left and his neck stiff. There were a few coarse rales in both lungs. His liver edge was palpable. The patellar reflexes were sluggish, and Kernig's sign was present on both sides; Brudzinski's sign was present, and incoordination of both legs was obvious when the child attempted to stand. Temperature was 102° F. (rectal). The blood showed 8,150 leucocytes, with 72% polymorphonuclears. The urine was negative. Kolmer and Kline tests on bloodand spinal fluid were negative. The colloidal gold curve was negative. The spinal fluid on April 19 was turbid, with 18,347 cells (82%) polymorphonuclears), increased globulin and no sugar. B. influenzae was obtained by culture, and remained present in the fluid for 26 days. Culture on the 35th day was negative.

This child was put on 4 grains of sulfapyridine every 4 hours for 36 days. On the eleventh day the sulfapyridine concentration of the blood was 2.4 mg. The temperature fell to normal on the 3rd. day after admission. On the eleventh day there was an unexplained rise to 103° F. (rectal) and a gradual return to normal in 24 hours.

Two days after admission the spinal fluid count was 256, with 66% lymphocytes. Next day it was 145. On the eleventh day, when there was an abrupt rise of temperature the cell count rose to 2,368, with 22% lymphocytes. Without change of treatment it fell in 3 days to 54 cells, with 73% lymphocytes. Before discharge on the 39th day after admission the cell count was 5 on one occasion, 7 on another. The child was apparently quite well, able to walk and perform all activities. There was a slight ataxia present.

When seen in July 1939, 90 days after admission, he appeared well except for persistence of a slight ataxia.

SUMMARY

This paper reports two cases of meningitis due to the influenza bacillus which were treated with sulfapyridine and recovered. Other cases which failed to recover under the same treatment are noted.

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NOVEMBER, 1939

THE MEDICAL SOCIETY OF SOUTH CAROLINA (CHARLESTON COUNTY) TO CELEBRATE FOUNDING, DECEMBER 5

Organized medicine throughout the world will be keenly interested in the forthcoming program of the Founding of the Charleston Medical Society one hundred and fifty years ago. At the end of the eighteenth century there were seven state medical societies in the United States as follows: New Jersey (1766), Massachusetts (1781), Delaware (1780), South Carolina (1789), New Hampshire (1791), Connecticut (1792), and Maryland (1799). It appears that it was the intention of the founders of the Medical Society of South Carolina that the Society should be state wide in the scope of its activities and this status probably was maintained until the organization of the American Medical Association in 1847 and the South Carolina State Medical Association in 1848. Subsequently there came about a still more sharply defined plan with the reorganization of the American Medical Association in 1904.

The fact is that only about a half a dozen medical societies in the United States have enjoyed a continuous existence along with the Medical Society of South Carolina.

There will of course be many special features to grace this occasion and such a rare one in

world medicine as December the 5th will be in Charleston. Dr. Nathan B. Van Etten, President Elect of the American Medical Association has accepted an invitation to be present. Dr. Francis R. Packard of Philadelphia, eminent medical historian and Editor in Chief of the Annals of Medical History, will also be an honored guest.

It is expected that many other prominent medical men from far and near will lend their presence to this colorful celebration.

MEETING OF THE COLUMBIA MEDICAL SOCIETY

The interesting meetings of the Columbia Medical Society continue to attract visitors from all over the state and the usual cordial hospitality of the members remains in full force. The ambitious program undertaken by the Society is certainly a shining example for the other units of our State Medical Association, and the caliber of the speakers makes attendance worthwhile for all sorts of practitioners.

The polished address delivered by Dr. Van Etten at the October meeting was of interest in many ways. Speaking as President-Elect of the American Medical Association he covered the broad and debatable questions of socialization and federalization of medicine, and

pointed out the dangers of current trends which are not being sufficiently guided by the medical profession. Dr. Van Etten's fervent speech made the occasion all the more interesting. The Columbia Society is to be congratulated on securing this fine type of speaker.

J. I. Waring, M. D.

NEWS ITEMS

The top rank in surgery, Fellowship in the American College of Surgeons, was conferred on 496 surgeons by the College at its annual meeting in Philadelphia, October 16. Among them were the following South Carolina physicians: Dr. Purvis J. Boatwright, Orangeburg; Dr. John G. Cathcart, Gaffney, and Dr. Everett Eldred Herlong, Rock Hill.

Two professional men of Columbia will participate in the program of the Southern Conference on "Tomorrow's Children" to be hold November 9, 10 and 11, at the Atlanta Biltmore Hotel in Atlanta. Dr. Robert E. Seibels, the South Carolina Director of the Conference, is to preside over one of the sessions and summarize the discussion; he is also to read a paper at another session on "The Medical Problem for the Mother." Dr. Austin T. Moore is to read a paper on "The Problem of the Crippled Child in the Southeastern States."

Dr. Herbert H. Harris, well known local physician and surgeon, was elected President of the Anderson County Tuberculosis Sanitorium Association, when trustees of the Sanitorium Association met for the purpose of perfecting the organization October 20. The sanitorium was incoroporated by act of the last South Carolina General Assembly. The trustees elected in addition to officers. an Executive Committee of the governing body. Other physicians elected to office were as follows: Dr. D. C. Stoudemire of Honea Path, Vice President and Dr. Grady Clinkscales of Anderson, Treasurer. A feature of the meeting was a review of the Anderson County Tuberculosis Association's campaign to establish a sanitorium in Anderson County by Dr. Joe H. Carter of the Central Presbyterian Church, who served as Chairman of the campaign funds for the construction of the Tuberculosis Hospital.

The Columbia Medical Society at its October business meeting, October 23, at Hotel Columbia, voted approval of a medical program framed by Dr. Douglas Jennings of Bennetts-ville, President of the South Carolina Medical Association, and made financial arrangements for its operation. Dr. M. E. Hutchinson reported on a case of pyelitis following delivery.

The Journal has received the following letter: "I am trying to contact a young or middle aged physician to assist me in general office and hospital work, either on salary or percentage basis and the possibility of a permanent partnership to the right man. believe I have an excellent opening for a man who really wants to work and build up for himself a substantial practice. Could you kindly help me contact such a man through your journal?" This letter is signed by the Medical-Superintendent of a hospital in South Carolina. All replies to this communication may be sent to the Journal and an effort will be made to supply this request.

Dr. Leon H. Banov, Health Officer of Charleston County. South Carolina, was elected President of the International Society of Medical Health Officers at its meeting held in Pittsburg, October 16. The meeting was held in cooperation with the Health Officer's section of the American Public Health Association. The many friends of Dr. Banov congratulate him on receiving this honor.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

ISSUED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Phrenic nerve interruption in the treatment of tuberculosis has lately lost much of its former popularity. By some it is condemned as being practically useless, if not actually harmful. A more discriminating judgment of this operation is urged by J. W. Cutler who has analyzed 122 consecutive phrenic nerve interruptions in his private patients.

PHRENIC NERVE INTERRUPTION

Claims concerning the value of phrenic nerve interruption are contradictory and confusing. One author reviewed 78 reports involving a total of 7,435 operations performed as an independent procedure and found "cures" reported in 23%. On the other hand, Coryllos, citing his own experiences and those of several workers abroad concluded that the operation is "not efficient, not without danger, and causes a loss of precious time."

This wide divergence of opinion is in good part explained by the type of patient treated—phenomenally good results are in relatively early cases and they would undoubtedly have been obtained from bed-rest alone, while in far advanced cases and in the presence of large, thick-wa'led cavities success can rarely be expected.

In a consecutive series of 122 tuberculous patients on whom phrenic nerve interruption was performed, it was done on 106 as an independent collapse measure. Many stages and varieties of tuberculosis are represented. Sexes are about equally distributed. The operation was done 60 times on the left side and 62 on the right. In 65 the interruption was temporary, in 57 permanent.

Evaluation of the operation should be based primarily on the changes that follow in the lung under consideration, as determined primarily by comparative X-ray findings, and not necessarily upon the ultimate fate of the patient. The time element, following operation, is of extreme importance. The good results of phrenic nerve interruption become evident within the first six months. Late results are more difficult to define; therefore, a three-to-five-year post operative interval, as a basis for late results, is not unreasonable.

The evaluation of phrenic nerve interruption is discussed under four main headings: (1) the value of the operation as an independent collapse measure, (2) the value as an adjunct to other collapse measures, (3) complications of the operation, and (4) temporary as contrasted with permanent phrenic nerve interruption, and their corresponding indications and contraindications.

In retrospect, the cases are classified as "apparently suitable" and "unsuitable." Unsuitable cases include: (1) apical cavities 3 or more cm. in diameter, for the operation is useless in the attempt to close apical cavities in which the apex has

become more or less excavated and adherent to the thoracic wall; (2) dense fibrotic lesions with embedded cavities; (3) pneumonic consolidations; (4) acute infiltrations. In this series there were 30 patients with lesions deemed in retrospect as unsuitable for the operation. The contraindications, in the sense that no benefit will follow, cannot however be considered absolute for occasionally a distinctly good result will follow.

Seventy one patients fell into the "apparently suitable" category and were evaluated as follows: (a) Unimproved, 52%. No material X-ray evidence of improvement in the tuberculous lesions noted within 3 to 6 months after the operation, or an actual increase in the disease. Lack of improvement was observed in all kinds of cases with "apparently suitable" lesions, including both cases of early limited infiltrations without X-ray evidence of cavity and cases of advanced disease.

- (b) *Improved*, 34%. Cavity was either closed or reduced in size or there was X-ray evidence of significant clearing with lessening of toxemia and improvement in well-being. However, in only 14 of the 24 cases in this group, did the improvement result in the stabilization of the lesion so that no further therapy was required. In the remaining 10, improvement, marked at first, was in time followed by serious relapse.
- (c) Cleared, 14%. Clearing of the disease in the lung except for some fibrous strands and a few small, sharply defined, moderately dense, spots. There were cavities of varying sizes in 8 and infiltration without X-ray evidence of cavity in 2. The result followed so shortly after operation and in such manner as to leave little doubt that the paralysis of the diaphragm was the responsible factor. The lungs have remained clear over an average period of more than six years after operation.

No concrete conclusions could be reached as to the type of case among the "apparently suitable" patients in which the operation can be undertaken with reasonable assurance of success. Good results were obtained in advanced disease and in unexpected situations. On the other hand, failures were encountered in minimal cases. In general, good results were observed more frequently when the major lesion was situated below the clavicle, and when the cavity was isolated, thin-walled and surrounded by nearly normal lung tissue.

The relative value of phrenic nerve interruption as an alternative to artificial pneumothorax and thoracoplasty, is considered. In the majority of cases in which phrenic nerve interruption was used as an alternative to pneumothorax the operation was either a useless undertaking or relapse followed an initial improvement. In those cases in which bilateral pneumothorax ultimately became necessary, selective collapse could be established in only 12 out of 28 patients. Time wasted on phrenic nerve interruption was largely responsible for the Phrenic nerve formation of extensive adhesions. surgery should not be looked upon as a substitute for pneumothorax, but must be regarded as a supplementary form of therapy.

More serious is the question of phrenic nerve interruption in preference to thoracoplasty. Of 31 patients in this series suitable for an immediate thoracoplasty, but subjected to phrenic nerve interruption in the hope of avoiding thoracoplasty, 3 died from hemoptysis and 3 from progressive tuberculosis and 7 more became hopeless invalids. In retrospect, these tragedies might have been avoided had thoracoplasty been performed promptly when conditions were most favorable. The important thing is not to resort to a phrenic nerve operation when thoracoplasty is plainly indicated, and not to delay thoracoplasty beyond the time when the phrenic nerve operation has accomplished its maximum good.

Phrenic nerve interruption was carried out also in 16 patients either as an adjunct to other collapse measures or in the treatment of certain complications of pneumothorax therapy including: ineffective pneumothorax, hemoptysis, troublesome cough, discontinued pneumothorax therapy, spontaneous pneumothorax, empyema cavities. The operation accomplished the desired result in about one-third of these patients.

Complications of phrenic nerve interruption must be taken into consideration. In the present series, significant complications attributable to the operation, were encountered in 6 with death in 2. Cardiac failure, which accounted for the 2 deaths, was the outstanding complication. Other important complications were interference with the cough mechanism (2 patients), gastric disturbance (belching and a sense of fullness in the stomach) annoying but not serious (3 patients). The fact remains, however, that the treatment of tuberculosis does not always permit a safe and sure choice of therapy. Phrenic nerve interruption may, in individual cases, prove to be accompanied by the least risk.

Both temporary and permanent phrenic nerve interruption have their place. A temporary phrenic nerve interruption is indicated (1) when the problem is of an emergency nature, as in hemorrhage or active disease requiring immediate collapse therapy when other collapse measures cannot be instituted at the moment, and (2) when other collapse measures such as pneumothorax or thoracoplasty, are in prospect. A permanent phrenic nerve operation is indicated when the operation is carried out as the sole therapeutic measure in the attempt to cure the patient after other collapse procedures have been considered unsuitable, or are plainly contraindicated.

The danger today is not that too many phrenic nerve operations will be performed or that they will be undertaken in an indiscriminate manner. but that the operation will be discarded. This would be unfortunate, for phrenic nerve interruption appears to have value in 15 to 25 per cent of patients. At times it may be the simplest means for saving a patient's life. The operation, however, should be restricted to properly selected cases.

Phrenic Nerve Interruption, J. W. Cutler, M. D., Amer. Review of Tuber., July, 1939.

BOOK REVIEWS

THE VITAMINS

A Symposium Arranged Under the Auspices of the Council on Pharmacy and Chemistry and the Council on Foods of the American Medical Association. Imitation leather. Price, \$1.50 postpaid. pp. 637. Chicago: American Medical Association, 1939.

So much information has become available about the vitamins, that it is difficult even for experts to keep up with the literature. The present volume is a welcome compendium of authoritative information about these accessory food factors. There are discussions of the chemistry, physiology, pathology, pharmacology and therapeutics, methods of assay, food sources and human requirements of each of the important vitamins. The volume is composed of thirty-one chapters written by experts, and is published under the auspices of the Council on Pharmacy and Chemistry and the Council on Foods of the American Medical Association.

This book should prove to be an indispensable volume for the library of every physician.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

March 31, 1939 Case of Dr. J. S. Rhame Clinical Record by Dr. H. Mamin

ABSTRACT NO. 391 (54395)

Admitted Feb. 5, 1939; died Feb. 21, 1939.

History: The patient, a white man of 69 years of age, was admitted with the complaints of "cough and cold." He dated the onset of his present illness from two days before admission, at which time a sever pain developed in the right chest. This was accentuated by deep breathing and coughing. Just before admission the patient developed a cough that was productive of a red colored sputum. The past medical and family histories were irrelevant.

Physical: T. 101.4 P. 100 R. 28.

The patient was an aged white man who was coughing considerably at the time of examination. The pupils were small and did not react well. The mouth was edentulous; the pharynx somewhat injected. The anterior cervical lymph nodes were palpable; the neck otherwise negative. Examination of the chest showed limitation of motion on the right side, dullness to percussion at the right base with associated coarse rales and diminution of breath sounds. The heart was not enlarged to percussion, the rate 100, the rhythm regular and no murmurs heard. B. P. 140/90. Examination of the abdomen revealed no palpable organs or masses, tenderness to pressure or other localizing signs. No hernia. Bones, joints, extremities and the neurological examination were not remarkable.

Laboratory: :

Urinalysis (2-6-39) Not remarkable. Blood 2-5-39 2-12-39

Blood	2-5-39	Z-1Z-39	2-14-39
Hb	62%	55%	
WBC	17,900	12,700	13,000
Polys	80%	75%	78%
Lymphs	16%	20 %	20%
Monos	3%	1 %	2%

Serology—neg.

Blood Culture—(2-6-39)—neg.

Diood Chille (2 0.0)	meg.	
Sputum	2-8-39	2-12-39
Tubercle Bacilli	ncg.	neg.
Diplococci	4 plus	4 plus
Pus cells		4 plus

Typed 2-6-39—reported it does not type.

Course: Cough, productive of a blood tinged sputum, continued, but the patient did not appear to be in any particular pain or marked discomfort. There was occasional vomiting. Dullness to percussion and diminution of breath sounds persisted at the right base and rales were heard at a higher level, about the tip of the scapula. Fever per-

sisted, fluctuating between 101.6 and normal during the first week of the hospital course. By 2-6-39, the lung findings were essentially unchanged, the temperature had become septic in type, and the expectorated material of a pronounced malodorus character. The patient expired 2-21-39.

Dr. Kelly (presiding:) Mr. Wolfe, will you open the discussion?

Student Wo'fe: With a continued cough productive of malodorous pus and blood, temperature and leucocytosis with evidence of dullness at the right base upon percussion, and associated coarse rales, I would think of a lung abscess.

Dr. Kelly: Do you regard this as a typical course for a lung abscess?

Student Wolfe: The history of the onset in this case is rather acute, and pain was present for only 2 weeks. The abscess may well have been of long duration, causing acute symptoms by extension to the pleura or e!sewhere. It is not uncommon for a large abscess to rupture into a bronchus and drain off, or if near the periphery to rupture into the pleural cavity and cause empyema.

Dr. Kelly: Mr. Durham, are there any other possibilities?

Student Durham: He may have had an atypical pneumonia without definite signs of consolidation. No organism was typed from the sputum. It is possible to have such symptoms from a necrotizing pneumonia caused by anaerobic organisms. Influenzal pneumonias or pneumonias due to Fried lander's bacillus are also to be considered.

Dr. Kelly: Mr. Greenberg, what have you to say?

Student Greenberg: I would think of pneumonia or a lung abscess. It seems likely that an area of consolidation failed to resolve and underwent necrosis, leading to abscess formation.

Dr. Kelly: Mr. Wolfe, assuming that the patient's reduced hemoglobin had been present for some time before his present illness would you think of any other possibilities?

Student Wolfe: He may have had a long standing focal infection or perhaps suffered from some nutritional deficiency. Malignancy, of course, in any part of the body could give rise to anemia.

Dr. Kelly: Are there any other comments?

Dr. Kredel: In a patient of this age, it is always well to bear in mind the possibility of a lung carcinoma, particularly when signs of a lung abscess are present. Carcinomas of the lung frequently are secondarily infected and break down, forming abscesses which terminate the clinical picture.

At this time Dr. Kalajian showed an X-ray film and pointed out a circumscribed mass in the right



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lower lobe which he thought to be a carcinoma.

Dr. Lynch: This man had a carcinoma of the lung, a large portion of which was destroyed by necrosis and infection. The tumor involves both the lower and a portion of the middle lobe forming a mass as large as a grapefruit. It has apparently arisen from a bronchus close to the hilus and extended into the lower lobe. The central portion of the tumor forms a cavity filled with bloodstained necrotic material which was discharged through a neighboring eroded

bronchus. The regional lymph nodes about the hilus of the lung were involved in the tumor, but there were no other metastases. Other findings of interest were a marked generalized vascular sclerosis with a small dissecting aneurysm of the abdominal aorta near its bifurcation. The coronary vessels also showed rather advanced thickening and resulting scar formation of the myocardium. There were also multiple adenomatous polypi throughout the colon, but no evidence of any malignant change was noted on microscopic sections of these polypi.

WOMAN'S AUXILIARY

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LAURENS COUNTY MEDICAL AUXILIARY

The Laurens County Medical Auxiliary held its September meeting at the home of Mrs. Martin Teague on Laurens Avenue, Laurens, S. C., and had on the program for the afternoon three guest speakers, two of whom are State Officers.

Mrs. W. B. Furman of Easley, President of the Woman's Auxiliary to the South Carolina Medical Association, outlined the important phases of work expected from each

unit. Mrs. R. P. Jeanes, also of Easley, State Corresponding Secretary, discussed the various trophies and awards given at the annual state convention for work accomplished by each unit. Mrs. J. W. Kitchen, of Liberty, President of the Pickens County Auxiliary, told of the many phases of work peculiar to her small but industrious unit.

Mrs. J. G. Hart, of Laurens, the local President, presided and Mrs. D. O. Rhame, of Clinton, Secretary and Treasurer, read the minutes of the May meeting, the last before the summer recess. An informal report was made by Mrs. R. H. Ariail, local scrapbook chairman.

The names of three new members were added to the roll, Mrs. James F. Dusenberry and Mrs. P. E. Cannon of Laurens, and Mrs. W. A. Moorehead of Goldville. Several other new members are to be added at the next meeting it was announced.

Following the program and the business session, tea was served by the hostess, assisted by Mrs. J. H. Teague and Mrs. R. H. Perkins.

ABBEVILLE COUNTY MEDICAL AUXILIARY

The Abbeville County Auxiliary to the South Carolina Medical Association held its first meeting of the fall on October 9 at the home of Mrs. J. V. Tate at Calhoun Falls. There were six of our eight members present. Plans

were discussed for the year's work. Among them were plans to assist the County Health Unit in any way we could. Efforts will be made to secure new members during the year. At the conclusion of the business session Mrs. Tate served a delightful salad course with tea.

MRS. J. R. POWER, Secretary.

SPARTANBURG COUNTY MEDICAL AUXILIARY

Mrs. Robert D. Hill and Mrs. W. G. Morehouse were joint hostesses to the members of the local auxiliary to the Spartanburg County Medical Association during September which was their first fall meeting of the year at the home of Mrs. Hill at Pacolet. Mrs. Hill, President, was in the chair and presided over the business session at which plans for the ensuing year were discussed.

Mrs. Jesse O. Willson, Chairman of the Program Committee, gave an interesting outline, with tentative plans for the programs for the year. Mrs. Willson then presented Mrs. Harold D. Cochran of Clemson College, who sang "The Boat Song" and "Roses of Picardy." Mrs. Cochran was accompanied by Mrs. Laye Johnson of Pacolet at the piano. Miss Belle Fuller, Public Health Nurse at Pacolet Mills, gave an inspiring talk on "The Program of Health Work at Pacolet." The speaker discussed here work in the pioneer stages and compared it with that of her work today.

It was announced that the American Medical Association and the N. B. C. would return to the air October 19 at 4:30 o'clock each Thursday over the Blue Network of the N. B. C. with an entirely new program.

Following the program, a social hour was enjoyed with the hostesses.

MRS. FANNY HORTON LONG

The Pickens County Medical Auxiliary at their last meeting dedicated a page in their minute book in honor of a faithful member,

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

JOHN WYETH AND BROTHER, INC. • PHILADELPHIA, PA.

Mrs. Fanny Horton Long of Liberty, who passed away June 4th, 1939.

Mrs. Long was a member of the Medical Auxiliary for a number of years, and her faithful and untiring efforts shall be missed.

MRS. R. P. JEANES HOSTESS TO PICKENS MEDICAL AUXILIARY

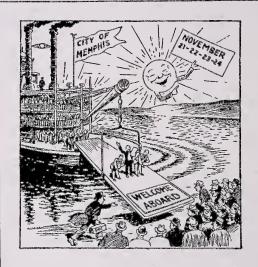
The Pickens County Medical Auxiliary held their August meeting with Mrs. R. P. Jeanes as hostess. Mrs. J. W. Kitchen, President, called the meeting to order, and the devotional was led by Mrs. L. R. Poole, followed by the Lords Prayer being repeated in unison. After the minutes and roll call and reports from committees were heard, new work for the coming year was discussed.

Mrs. Kitchen read a paper from the State President giving a general outline of work to be followed, and announced that a trophy would be given the Auxiliary having the best Health Project or projects during the year. She also read a paper from the State Program Chairman giving suggestions to be used in the State work.

The Auxiliary dedicated a page in their minute book to the memory of a faithful member, Mrs. Fanny Horton Long of Liberty who passed away June 4, 1939.

Reciting the Club Woman's Creed, the meeting adjourned. Mrs. Jeanes served her guests a frozen salad with iced tea. Visitors at this time were Mrs. W. W. Robinson and Mrs. Carl Pepper.

The South Carolina. Society of Ophthalmology and Otolaryngology will hold its annual meeting Tuesday, November 7, at the Columbia Hotel, at 3:00 P. M., according to notices sent out by Dr. J. W. Jervey Jr., of Greenville, Secretary-Treasurer, of the Society. Dr. Emory Hill, Professor of Ophthalmology at the Medical College of Virginia will address the meeting on "Some Problems of Cataract Surgery." Dr. Hill is an eminent ophthalmologist and a thoroughly delightful personality. It is hoped that a good many physicians in South Carolina wil find time to attend this meeting. Those making plans to be present are requested to notify Dr. J. W. Jervey, Jr., 101 Church Street, Greenville, S. C., to that effect.



WELCOME to MEMPHIS to the outstanding medical meeting of the year-the annual meeting of the Southern Medical Association, November 21-24. In the nine general clinical sessions, the nineteen sections, the three independent medical societies meeting conjointly and the scientific and technical exhibits, every phase of medicine and surgery will be covered —the last word in modern, practical, scientific medicine and surgery. Addresses and papers will be given by distinguished physicians not only from the South but from all over the United States.

R EGARDLESS of what any physician may be interested in, regardless of how general or how limited his interest, there will be at Memphis a program to challenge that interest and make it worth-while for him to attend.

A LL MEMBERS of State and County medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South should be and can be members of the Southern Medical Association. The annual dues of \$4.00 include the Southern Medical Journal—the equal of any, better than many.

SOUTHERN MEDICAL ASSOCIATION

Empire Building
BIRMINGHAM, ALABAMA

SOCIETY REPORTS

The Oconee County Medical Society met at the Oconee County Hospital, Seneca, Friday evening, October 13, to participate in the opening of the new clinical laboratory and the new hospital library. Dr. F. T. Simpson, Vice President of the Society, presided, in the absence of Dr. T. G. Hall, President, who has been ill for several months, but is now much better.

The first speaker on the program was Dr. W. L. Pressly, President Elect of the South Carolina Medical Association, Due West, who gave an excellent resume of the present status of organized medicine and its problems and of the South Carolina Medical Association and its objectives. This address was followed by a discussion of Scarlet Fever in its public health aspects by Dr. G. E. McDaniel, Epidemiologist of the State Board of Health, Columbia. The County Health Officer, Dr. W. E. Baldwin, and several members of the Society, discussed this disease, a number of

cases having developed in the county in recent weeks, all of a mild type. Dr. E. R. Pund, Professor of Pathology, Medical Department University of Georgia, Augusta, Georgia, delivered an address on The Functions and Possibilities of the Small Hospital Laboratory.

The new laboratory was then visited by the Society and guests and Miss Betty Watson, who was recently elected, head of the laboratory introduced. Miss Watson received her A. B. degree from LaGrange College, LaGrange, Georgia, did graduate work at William and Mary College and took technician's training at the University of Georgia Medical School in Augusta.

Additional guests present were Dr. Lee Milford, Surgeon of Clemson College and Dr. Homer M. Daniel of the Anderson County Hospital staff. At the conclusion of the exercises, Miss Robbins, Superintendent of the Hospital, and her staff of nurses served light refreshments.

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NEWS ITEMS

All members of the South Carolina Medical Association are cordially invited to attend the annual meeting of the Radiological Society of North America which will be held in Atlanta, Georgia, December 11-15, 1939. This annual meeting is coming to Atlanta for the first time and represents in its membership the leading radiologists of the United States and Canada. The program is unusually broad and instructive being divided into three parts as follows: (1) What is known as the Refresher Course, which consists of courses on various subjects given by the leading men in this particular branch. This Refresher series begins Sunday afternoon, December 11th, for three hours, Sunday night for two hours, and meets daily from 8 to 10 A. M. Several of the courses, particularly those subjects of wider scope, such as Radiology of the Gastro-intestinal Tract and Radiology of the Chest, are so arranged that related subjects will follow consecutively, making it possible to enroll in a sequential series. (2) The morning session of this Assembly is a mixed meeting on topics of Radiology, including Roentgenology and Radium. (3) The afternoon meeting is divided into two parts, the first Diagnostic and Roentgenology and the second Therapeutic Roentgenology and Radium Therapy. There is no expense to members of our State Medical Association for registration, or to attend either the Refresher series of courses, or the Symposium. Membership in the Refresher Courses is limited, 1st to the members of the Radiological Society. After that, any physicians applying are listed in order of application.

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Aphorisms on Tuberculosis

WILLIAM ATMAR SMITH, M. D., CHARLESTON, S. C. President Southern Tuberculosis Conference

When Dr. Chadwick was escorted to the Chair after being elected President of the National Tuberculosis Association, he said, "I feel very much like Noah Webster." It seems that the wife of the famous lexicographer came in one day and found him kissing the serving-maid. She said, "Why, Noah, I am surprised!" He replied at once, "You are not surprised, you are astonished. I am surprised."

Were I less familiar with the policies and politics of the Southern Tuberculosis Conference, I could share the feelings of both of the Websters.

But at that, I am not unmindful of the distinguished honor of being President of this worthy organization—a loosely knit and all embracing group of men and women representing many fields — medical, public health, administrative and lay—allied in one great cause—the promotion of health and the prevention of disease in our Southland.

At this moment, when men and nations are at each other's throats, mutilating, crippling, killing, it is a satisfaction to feel that we are enlisted in one army whose triumphs are measured in lives saved, not destroyed; in human bodies repaired, not maimed; in human suffering assuaged, not augmented—an army whose tactical objectives are to make "health more perfect, life more certain and death more remote."

I esteem it a great privilege to be Commanding Officer of such an army, and I am deeply grateful for this opportunity to serve.

Many, many years ago the great father of medicine wrote a series of medical aphorisms; in fact it was he who coined the term. Controversies as to his authorship of all of these and certain parts of some of them have frequently arisen, but the historians are all in accord that Hippocrates conceived the idea of expressing his views and experiences in terse sentences not easily forgotten.

Some of the commentators have said that these aphorisms were the "brain-children" of his old age, intimating that one never writes them until that period of life has arrived.

Joannes de Meditano and Herman Boehaarve wrote notable medical aphorisms in Latin. Those of the latter were published posthumously. He was probably old, too, when he wrote them.

In the latter half of the last century the distinguished English physician, Samuel Gee, published a small volume of "Clinical Aphorisms," each a medical gem, the product of keen observation and rich experience. He, too, I believe, was reaching towards the sunset.

More than two decades ago the much deloved Lawrason Brown contributed his "Tuberculosis Theses"—a series of epigramatic statements of truths, demonstrating his practical wisdom gleaned from a wide knowledge of the disease. At the time of this publication, his age belied the commentators, though his experience was ripe and his judgment rare.

So any of you who desire to write Aphor-

isms have abundant precedent, be they medical or philosophical.

Custom and tradition decree that the President of this Conference make an address on Tuberculosis. With your permission I am going to make Aphorisms about tuberculosis.

An aphorism has been defined as a term used to describe a principle expressed tersely in a few telling words, or any general truth conveyed in a short, pithy sentence, in such a way that when once heard is unlikely to pass from memory.

Humbly emulating but not competing with the great leaders of the past, I submit the following Aphorisms with the satisfaction of knowing that they will soon pass from memory, with confidence that they will not be accepted as truths, and the expectancy that they will be regarded as an evidence of my dotage:—

1—"Tuberculosis is as old as civilization itself," and it might become older if the civilized world does not soon become more civilized.

2—The decline in the death-rate in the past half-century from approximately 200 to less than 50 per 100,000 may be regarded as the outstanding public health accomplishment of all time. The factors concerned in bringing this about were both biological and economic, but the acceleration of the downward mortality trend in recent years was directly due to aggressive human effort.

3—Tuberculosis is a complex disease; its manifestations are many and varied. It frequently simulates other pathological entities; it may be acute, destroying life in a few weeks, or so chronic as to plague its victim throughout a long lifetime.

4—Tuberculosis may occur in infancy or in old age, but is especially prevalent in those years when the joy of living is keenest and the future beckons with alluring promise.

5—Our knowledge concerning the exciting cause, the pathology and treatment of tuberculosis is colossal, but our ignorance concerning the factors of resistance, immunity and allergy is abysmal.

6—Thirty years ago the late Charles L. Minor said, "There is only one treatment for tuberculosis in the Negro, and that is prevention." Accepting the broad implication in

principle, it must be pointed out that many splendid results are being attained by the application of modern methods of therapy to this race.

7—The tuberculin test is an instrument of value in epidemiology. It has a certain place in differential diagnosis, but it is no short cut to the elucidation of tuberculosis.

8—The discovery, development and perfection of the X-ray has been the greatest of all contributions to the diagnosis of chest diseases, but its use on a national scale for the purpose of detecting tuberculosis will not prove as effective in the eradication of this disease as some of its sponsors believe.

9—The fluoroscope in proper hands is an efficient and economical weapon for the discovery of communicable tuberculosis.

10—The evolution of the tuberculosis sanatorium from the "shack" to the modern Sanatorium-Hospital, dramatizes the evolution of the therapy of tuberculosis.

11—The properly conducted community Tuberculosis Sanatorium fulfills a three-fold function—isolational, curative and educational. It is the hub around which the most effective program of preventive work revolves.

12—An alert, adequately trained medical profession is the vanguard in the attack on the ramparts of tuberculosis. A more widespread use of the Sanatorium facilities for under-graduate instruction will strengthen this force.

13—The introduction of collapse methods is a landmark in the progress of the therapy of tuberculosis; but these are only adjuncts to the cure of the individual case. The Sanatorium regimen, embracing rest, nutrition and discipline, still remains the sheet-anchor of successful treatment of this disease.

14—The recent brilliant achievement of Chemo-therapy in other serious infectious diseases inspire hope for its future in tuberculosis.

15—Federal aid for tuberculosis should be confined to assistance in hospital construction and to the handling of the problem of the dangerous transient; but under no conditions should Government control be permitted. This would stifle local initiative and discourage voluntary assistance.

16—Encouraging inroads against tuberculosis are being made, but many vital problems bearing directly upon its prevention remain unsolved. Their solution demands unremitting scientific research, wise medical leadership supported by an enlightened and generous public.

17—"Life is short, art is long, opportunity

fugitive, experimenting dangerous, reasoning difficult."

I am thoroughly in accord with the old master, Hippocrates, in the last phrase of this, his first aphorism—"reasoning difficult." Southern Tuberculosis Conference, Charleston, South Carolina, October 4th, 1939.

Painful Scars

F. E. Kredel, M. D., Charleston, S. C.

The scars that result from both surgical and accidental wounds usually lose their pain and tenderness shortly after the wound has healed. In the ordinary case within a month after primary healing the patient ceases to notice any annoying symptoms from the wound When infection has occurred, the scar may be painful until all signs of inflammation have subsided. The patient can be assured, when he complains of pain in his recently healed wound, that the pain will gradually disappear. However, an occasional case is seen in which the scar remains painful for long periods of time. The pain may be not only a source of annovance but may be sufficiently disabling to demand treatment.

The symptoms of painful scar are usually related to pressure or stretching. It is a well recognized surgical principle that incisions should be avoided over areas of the body that receive pressure during ordinary activity. Scars on the ball of the finger tip and over pressure points of the sole of the foot are apt to be painful. Clothing may cause pressure on scars particularly about the forehead, shoulders, waist, and feet. Pain from tension on the scar is most often seen on the abdomen and about joints.

The pain of which these patients complain is intermittent and related to stimulation of the sensitive area during activity. The tenderness may be sufficiently marked that the slightest contact causes pain. In some cases an aching pain is set up which persists for some time even after a period of rest. With

abdominal scars the symptoms may simulate intra-abdominal conditions. An incorrect diagnosis of post-operative adhesions is often made.

Careful sensory examination of the scar should be made in every suspected case. We have found in nine cases at the Roper Hospital that only a small portion of the scar was tender. In fact a single small point or area may be tender to pin prick or light pressure with a blunt instrument, while the remainder of the scar is not abnormally sensitive. Disappearance of the pain after nerve or field block with novocaine is further evidence that the cause of the trouble is in the scar and not in deeper structures. Repeated novocaine injections have been used by Leriche and others as a therapeutic measure in such cases.

The usual treatment of painful scar has been complete excision of the entire scar. It has been our practice during the past two years to excise only the small area found to be hypersensitive. We have performed this limited procedure in nine of our last ten cases. The only scar requiring complete excision was a diffusely tender keloid. The operation can be performed under local anesthesia without hospitalization. It is important carefully to mark the spot to be excised with ink or contrast dye before the field is prepared. The area removed depends upon the size of the scar and the extent of hyperalgesia. largest area was 2 x 2 cm. and the smallest 2 x 2 mm. Excision should be deep enough to include the full thickness of the scar. few silk sutures suffice for closure.

It has been of interest to study the tissue removed for evidence of neuroma formation at

From the Department of Surgery, Medical College of the State of South Carolina.

these tender spots. In serial sections impregnated by special methods for nerve fibres we have been able to demonstrate neuromas in the majority of cases. Although these neuromas may reach a size of a millimeter or more, they are difficult to distinguish grossly from the scar tissue in which they are embedded.

The results of this simple treatment for painful scar have been quite satisfactory. In every case followed the pain has been relieved and has not returned. On the other hand a painful infected keloid has had some recurrence of pain several months after complete excision.

In recently healed painful scars a period of observation is indicated before surgical treatment is carried out. In many such instances the pain will disappear spontaneously. A low grade infection not visible externally may persist for several months and finally be overcome

by the tissues. Sensitive regenerating nerves may become less and less tender as they acquire their protecting sheaths of myelin and Schwann cells. So, unless the pain is too severe, expectant treatment is justified for the first six months after the wound has healed. Local heat, immobilization, and protection of the wound from trauma are assistance in reducing the symptoms. If the pain persists after six months, excision of the painful area is indicated.

Summarizing, it is concluded that persistently painful and tender scars of long duration may be due to neuroma formation deep in the cicatrix at a single spot. Clinical examination for points of tenderness on pressure will reveal these spots. Simple excision of the tender area, without removal of the entire scar, will relieve the symptoms.

Pulmonary Complications as an Aid in the Diagnosis of Subphrenic Abscess

(Preliminary Report)

JOHN A. BOONE, M. D., CHARLESTON, S. C.

Subphrenic abscess is a serious affection, having a general mortality of around 80%. Part of the responsibility for this high mortality must be assigned to the fact that it is a complication frequently of multiple liver abscesses, generalized septicemia, and other diseases of themselves having a serious prognosis. However, a large part of the mortality must be ascribed to the difficulty in making a diagnosis before the patient's resistance has been so lowered that he makes a poor recovery from operative drainage, or else dies without the diagnosis having been made.

Subphrenic abscess is a deep-seated affair, giving few symptoms of a definitely localizing nature. Patients having it commonly lie on the ward for days (or even weeks or months occasionally) with unexplained fever, poorly

From the Department of Medicine, Medical College of the State of South Carolina, and the Medical Service of the Roper Hospital.

localized abdominal pain and an up-and-down course that has a gradually down-hill trend. Frequently some other abdominal septic process has been drained, and the persistent fever is explained on the basis of inadequate drainage, wound infection and the like. In other cases, as in perinephric abscess, the delay in focussing attention on the subdiaphragmatic area is responsible for failure of diagnosis.

A positive diagnosis of subdiaphragmatic abscess is not difficult to make, once suspicion of it has arisen. Practically all will show elevation of the diaphragm and frequently a gas bubble, by X-ray. An exploratory needle will generally settle doubtful cases, and operative drainage, if done early enough, is followed by a fairly high percentage of recoveries.

A considerable portion of the mortality, then, is caused by delay in diagnosis, and this delay is a result of the lack of localizing signs to focus suspicion on the subdiaphragmatic

During the past three years the author has been struck by the frequency of chest involvement in the cases of subdiaphragmatic abscess that he has seen. The first case bringing out this relation entered the hospital with a pleural effusion. The effusion was completely removed and an X-ray taken which disclosed, instead of parenchymatous lung disease, a slightly elevated diaphragm and a small gas bubble over the liver. Recovery followed uneventfully after operative drainage, and subsequently it was shown that the almost symptomless perforation of a peptic ulcer had given origin to the abscess.

This case was so impressive that it led to the diagnosis of two other cases. One was a case of perforated peptic ulcer who had been operated upon and then transferred to the medical ward for recovery. He developed a right-sided pleural effusion. X-ray after aspirating the effusion demonstrated a very large subphrenic abscess. The patient made a slow but complete recovery following its drainage.

The second case entered the medical ward with a pleural effusion one month after drainage of a perforated appendix. Again aspiration followed by X-ray showed a high right diaphragm. A moderate sized subphrenic abscess was drained, the pus showing ray fungi on microscopic examination. The patient subsequently died of generalized actinomycosis. In both cases, the occurrence of a pleural effusion following a perforated abdominal viscus

so resembled the first case that the author immediately suspected subphrenic abscess and the diagnosis was quickly made.

In order to investigate further this coincidence, all cases of subphrenic abscess that could be found were collected from the Roper Hospital records. Ten cases only could be found, with seven deaths and three recoveries. Five cases were diagnosed ante-mortem, including the three recoveries. The remaining five cases were diagnosed only at autopsy. Of the ten cases, only two failed to show some pathology above the diaphragm. Two had simple pleural effusion, four had empyema, one an acute lung abscess, and one had transient pneumonitis in the lower lung lobe directly above the abscess.

The very high incidence of lung or pleural involvement in this series is striking. Since many cases of subphrenic abscess follow a perforated ulcer or appendix, the author believes that the occurrence of some pulmonary complication, especially pleural effusion or empyema, following rupture of an abdominal viscus, should cause the surgeon immediately to suspect a subphrenic abscess. Such a policy should result in prompt diagnosis of the disease and a considerable reduction in mortality.

This series of cases also should emphasize to the internist that pleural effusion and empyema are not always the result of chest disease, but that subdiaphragmatic pathology is also to be ruled out in his search for their underlying cause.

The Evolution of Knowledge of Tumors

Kenneth M. Lynch, M. D., Charleston, S. C.
Professor of Pathology Medical College of the State of South Carolina

Governments have become interested in cancer: the lay population is being organized for action against the disease. It has come into recognition that it is one of the greatest slayers of human kind, commonly taking the bread winner or the spiritual guide of the family at a time when they are greatly needed.

The latest phase of evolution of our attitude toward cancer is that it constitutes a major public health problem, not from the standpoint of the older conception of the function of public health authority in the control of communicable disease, for cancer is not a communicable disease, but simply that we muster against it concerted effort.

There are now in the United States approximately one half a million sufferers from cancer, of whom about one hundred and fifty thousand will die this year. In South Carolina there are some three thousand cases. Last year over nine hundred citizens of this State died of the disease, even though we have one of the lowest rates of occurrence among the states.

Cancer is a common disease and apparently always has been common. It is actually increasing in spite of steady improvement of measures against it. We believe that if the information we now possess and the measures of treatment now in hand can be more effectively and wider applied, perhaps as many as one half of those now being lost through cancer can be saved.

Among the profession as well as in the laity the attitude toward cancer is extremely pessimistic and it is the common belief that nothing particularly is being done or can be done about it. Against this pessimistic view should be measured a vote of optimism. In reality more has been done about cancer within the past one hundred years than in all the previous thousands of years of man's existence. It is interesting and enlightening to measure the present against the past in this respect.

It is apparent that ancients knew a good deal about cancer. Record of it occurs in the earliest writings preserved to us. Hippocrates (B. C. 460-375) gathered a considerable body of general facts about it, and he is credited with curing a cancer of the neck by cautery.

While the ways and means of treatment in that far day were much the same as today, with the exception of the modern adjunct of radium and the X-ray, ideas as to the nature and reason for the disease were primitive, of course. All disease was due to either excess or deficiency of blood, mucus or bile, and cancer arose from the accumulation of black bile. Remember that then the circulation was unknown, as was the construction of animal tissues. Such was the condition of knowledge of disease until the discovery of the circulation by Harvey in 1628, and the events following.

Conforming to the period, that is with the state of knowledge of fundamental matters, then arose the lymph theory, wherein cancer was conceived to be coagulated lymph escaped from the vessels.

It took the acromatic microscope, first ap-

pearing about 1824, a number of years after the founding of the Medical Society of South Carolina, to bring in the next era of cancer progress, and the first one on a firm basis. For the ensuing one hundred years, and up to the present, we have been busy learning the cellular structure of cancer, classifying its varieties and measuring their potentialities. We have learned that there is no special cancer cell, that the cells of all tumors are the progeny of those once normal. We have reached a time when no longer is neoplastic disease one, but a wide variety within a broad general class, even as small-pox and tuberculosis are different diseases within the infectious class.

Within this period of structural study, the so-called histological period, we have separated fundamentally the benign from the malignant tumors, we have learned that practically every kind of cell within the body may give birth to its own brand of both the above varieties. we have learned to identify the members of this great disease family, we have excluded many conditions which formerly were considered to be tumors from it, and we have learned to relate the characteristic behavior in individual tumors with their structure, and now undertake to apply our ideas of what will naturally happen and what treatment is best to apply to prevent that happening, by study of the structure of each individual case.

Naturally in this histological period arose theories of the nature and cause of tumors based upon structural study, and so most of us were drilled in undergraduate study in the so-called cell inclusion or cell displacement and in the tissue tension theories. I do not say that these theories are entirely out-grown just yet; there are certain aspects which might now be fitted to more recent ideas, but the original conceptions in them are now no longer generally tenable. They served an important function at a period of development, as did the sidechain theory in immunity. similar judgement is apparently obliged to come the current widely accepted and expressed theory of chronic irritation as the cause of cancer. What we really mean to say is that many cancers arise from a bed of chronic inflammatory disease, chronic structural change, but we do not know what factor in such

structural disorders is really the stimulus. When we speak of irritating cells into the lawless state which is cancer we are using a phrase which has no definite meaning. The things which we ordinarily think of as irritants certainly are not particularly carcinogenic factors, while the sort of state out of which many tumors appear to arise is certainly not an irritated state in the ordinary sense.

What we really mean is that some alteration in tissues the seat of prolonged disease is productive of a factor, as yet not detectable, which so alters cells that they are enabled to escape the checks and balances existing among organized animal tissues and to grow and behave in a lawless and destructive manner.

While the structural study of tumors has still much to offer in a thorough understanding of tumors, we have now entered upon a new era of the history of cancer, the experimental era, in which a number of significant happenings have already occurred and in which we may hope that preventive, diagnostic and therapeutic measures may be developed to lead at least to such control that it will no longer constitute the extreme hazard to mature adult-hood that it now does.

The first successful deliberate attempt to produce cancer by experimental means was that of Fibiger (1913) who brought about cancer of the stomach in rats by feeding them upon cockroaches infested by a small worm. The adult worm embedded itself in the stomach wall and there grew a cancer. What substance or factor came from the worm or the infected tissues to cause the cancer remains unknown. Analogous production of tumors by other animal parasite infection has been discovered since then, but in no case can these occurrences be said to contain significance in connection with the parasitic theory of causation of cancer.

The first experimentally produced neoplasm occurring from the use of a definite substance was that of the skin of rabbits from continued application of tar. But not all tars will produce cancer, nor will all animals respond to the application.

Since this occurrence cancer producing tar has been fractionated by distillation into its parts, chemically speaking, and some of its parts are carcinogenic (cancer producing) and some are not. The carcinogenic factors are hydrocarbons whose chemical structure has been determined and which may be synthesized. So now a definite chemical compound which may be depended upon to produce a cancer may be constructed by the chemist. This is possibly a long step toward determination of the carcinogenic factor in chronic inflammatory disease and it is a long journey from 1824.

Interestingly, it appears that carcinogenic hydrocarbon from tar is closely related, chemically speaking, to the sex hormones, to the sterols of our body metabolism, to bile acids, to vitamin D. In other words we contain within our anatomies substances closely akin to some which we know to be capable of producing cancer, and some of these naturally occurring substances have already been suspected of relationship to naturally occurring cancer, say uterine or breast cancer for example. However, more than excited interest in the comparison is not now justified.

Further, most interesting and perhaps significant are some occurrences in this era of experimentation in the relation of viruses to tumor growth. From certain tumors of other animals (rabbits, fowls) a filtrate may be made containing no discoverable cells or bacteria which when injected into another animal of the same species will produce the identical tumor, and this transmission may be repeated indefinitely. Filtrable viruses are generally looked upon as living organisms, too small to be seen with our means of vision, capable of getting through our finest filters. Are they living things? What is their chemical make up?

Then too, in the matter of hereditary influence in cancer have occurred events of significance in this experimental era. Maude Slye and Tyzzer and Morgan are names connected with pioneering here. Without making an intricate analysis of their work and of others, it may be said that by inbreeding from cancerous parentage strains may be developed which will all have cancer if allowed to live out their lives. Further, strains may be developed which will have some particular tumor of some definite location, say cancer of the breast for example.

We have always been interested in the possibility of an inherited influence in cancer occurrence in the human. Some have traced out family trees of so-called cancer families. Identical twins have been recorded as developing the same type of tumor at near the same time.

On the other hand, outbreeding will experimentally produce cancer resistant strains. Since the tendency in the human is toward outbreeding, it may be that the human race has reduced its possible cancer by this means. How much cancer we might otherwise have furnishes interesting speculation.

While no practical application of the possible relation of heredity to cancer is possible now, and while we should minimize at present the importance of the matter and not scare people with the idea, certainly mice and men are no different in their unavoidable submission to the laws of inheritance.

Many opportunities for productive investigation in the lines indicated and in others have been opened up in this experimental era. The metabolism of tumor cells, their transplantability, the matters of resistance and immunity, these and other aspects of the problem are being attacked in a promising manner. Constant improvement in application of measures of treatment is occurring. The next era in cancer history, whatever may be its trend, can hardly fail to take a long step toward effective control.

We have arrived at a time now when we know neoplastic disease structurally, but until further progress is made in diagnostic and treatment measures we are dependant for improvement of control upon getting the individual case in hand earlier. As we succeed in this direction diagnosis becomes more difficult but treatment more effective.

A Century and a Half of Progress in Surgery

R. S. CATHCART, M. D., F. A. C. S.

Professor of Surgery, The Medical College of the State of South Carolina, Surgeon-in-Chief, Roper Hospital, Charleston, S. C.

On this occasion of the sesquicentennial of the Medical Society of South Carolina I can think of no better introduction to a review of surgical progress than the words of one of its own members, the late Dr. Edward F. Parker:

"The march of civilization leads us with such impetuous haste that we seldom find time to review the lives and works of our honored surgeons of the past, to sing their praises and gratefully acknowledge our indebtedness to them for their services to us and mankind, or even to reflect upon their contributions to surgery, the benefits of which we have reaped a hundredfold, and to whose ability and genius this branch owes its present position in the foremost ranks of the medical science."

While space does not allow a review of the entire history of surgery during the past one

From the Department of Surgery, The Medical College of the State of South Carolina.

hundred and fifty years, we can re-live a few of the pinnacles in its development that have contributed most to modern surgical science.

An important factor in the present high position of surgery is the growing insistence that only properly qualified men shall practice it. England was the pioneer country in demanding and enforcing adequate qualifications for surgeons from the sixteenth century on. On the example of the Royal College of Surgeons of England dating from 1800 the American College of Surgeons was founded in 1913. More recently special certifying boards with rigid requirements have been established so that in the future those who would call themselves surgeons must be indeed worthy of the name.

The introduction of anesthesia and of asepsis are the two greatest advances in the entire history of surgery. As early as 1800 Sir Humphrey Davy announced that inhalation of

nitrous oxide was capable of destroying pain and suggested its use in surgery. In 1825 a young English physician named Hickman performed operations on anesthetized animals. Unfortunately both of these discoveries were ignored.

During this period nitrous oxide and sulphuric ether became well known to chemists who in particular noted the property of both materials to produce a type of intoxication when inhaled in sufficient quantity.

This brings us up to the actual discovery of surgical anesthesia by Dr. Crawford Long of Crawford Long attended the Uni-Georgia. versity of Pennsylvania in 1838 and 1839, and, although there was an unusually good chemistry department under Robert Hare, Long was apparently introduced to the intoxicating effect of ether through wandering showmen who gave demonstrations on any of the audience who would volunteer, much like our present day hypnotists. Long settled in a very small Georgia town, Jefferson, near the State University at Athens. He immediately became very popular with all the young men about town by furnishing them with ether for parties. At this point comes Long's claim to fame. noticed in the rough-house that followed the inhalation, that many severe bruises and lacerations were received without being felt. From this observation, using the words of the South Carolina Medical Association's Investigating Committee, who reported in 1883:

"Long reasoned it out in a philosophical and logical manner and was the first man intentionally to produce anesthesia for surgical operation and this was done with sulphuric ether in 1842."

Long's first patient was a man named Venable—he removed a large sebaceous cyst from his head while under complete anesthesia. From this time on he performed numerous operations under anesthesia, but being an exceedingly modest man and having no major cases, he did not report his work in the literature until after Morton (a dentist) had anesthetized a patient for Dr. J. C. Warren at the Massachusetts General Hospital. This operation was performed in October 1846 and was published in the Boston Medical and Surgical Journal one month later. Other

pioneer workers in anesthesia were Charles T. Jackson (a chemist) who apparently had instructed Morton in the use of ether, and Sir James Y. Simpson, the Edinburgh obstetrician, who discovered the use of chloroform. It is interesting to recall that while anesthesia was widely acclaimed and almost immediately universally adopted in general surgical procedures, Simpson was severely criticized by both the profession and the clergy for using chloroform in obstetrics. Many sermons were delivered and several pamphlets were printed and circulated with numerous quotations from the Bible to show that "Woman was to deliver in pain and travail." In spite of this bigoted and unreasonable criticism, Simpson persisted in his great pioneer work of obstetrical anesthesia and lived long enough to see it completely accepted by

In one respect anesthesia was a great disappointment. Prior to its discovery a large proportion of surgical deaths had naturally been blamed on the shock following operation on a wide-awake patient, yet at the time anesthesia was introduced, about 50 per cent of surgical patients and 25 per cent of all patients admitted to hospitals, died. These high mortality figures had rapidly followed the introduction of hospitals.

In ancient times infections following wounds and operations were not frequent since there were no large hospitals with overcrowding of patients and almost inevitable contaminations and cross infections. However, with the establishment of large hospitals in the Middle Ages and the ignorance of the bacterial origin of infections, surgical mortality began to increase rapidly. It was held in abeyance as long as fresh wounds and incisions were treated with boiling oil, but following Ambroise Pare's suggestion about 1560, that this horrifying and painful procedure be discontinued, the mortality in hospitals soon reached 50 per cent. In spite of the fact that Anton van Leeuwenhoek described bacteria in 1675, no connection was made between them and disease and infection. until the time of Joseph Lister.

Joseph Lister was born near London in 1827. He graduated from University College Medical College in 1850 and, after a House Physician and Surgeonship at the University Hospital, he was associated with Professor James Syme of Edinburgh University for eight years. Lister was appointed Professor of Surgery at Glasgow in 1860 and while here performed his memorable work in antiseptic surgery. At the time Lister began this experimental work, it was generally thought and taught that all post-operative cases and injuries had to show pus formation before they could heal. Lister, being a keen student of Nature and having a mind singularly free from conventions and convictions, disagreed with this and taught that pus formation was not a necessary part of the healing processes. Knowing Lister's great interest in inflammation and the kindred processes of decomposition and putrefaction, Professor Anderson, the chemist, called to Lister's attention the recent experimental work of the French chemist. Louis Pasteur. Lister immediately saw the truth of Pasteur's experiments proving that fermentation, putrefaction and decomposition could only occur if micro-organisms were present. Pasteur had prevented these processes in wines, vinegars, etc., by heat. Since it was obviously impossible to heat patients sufficiently to destroy germs, Lister immediately began to search for an adequate substance that would destroy the germs but would not injure the patient.

Antiseptic substances, at the time Lister began his experimental work, were used medically in two ways: First, several substances notably alcohol and glycerine—were used successfully to preserve dead bodies and anatomical specimens. Second, various substances such as zinc chloride, iodine and crude coal tar, had been tried in hospital practice to combat "Hospital gangrene" and other infections. The latter use had been uniformly unsuccessful. failure was not, primarily, through the lack of antiseptic quality of the substances used, but rather due directly to the method or lack of method of application. No one prior to Lister had realized that antisepsis had to be started immediately after an injury, or in surgery the antiseptic had to be correctly and intelligently applied before, during and following the operation. We must return to the point that the profession was not aware of the role that bacteria played in causing infection. Lister first successfully used his chosen antisepticcarbolic acid—on comminuted fractures. next boldly opened abscesses and infected joints after carefully sterilizing the skin and all the instruments with carbolic acid. Using this method he found that he could successfully evacuate pus from practically any part of the body without getting fatal secondary infections as had previously been the case. He first described his antiseptic system in an article in The Lancet in March, 1867. title was: "On a New Method of Treating Compound Fractures, Abscesses, etc., With Observations on the Conditions of Suppuration." His work was ruthlessly criticized and it was not generally accepted for several years. The tale of his patient struggle is one of the most inspiring in medical history.

Lister made many other notable contributions to surgery, among them:

He developed and perfected the plain antiseptic and chromic absorbable catgut sutures and ligatures as used throughout the world today;

He devised new operations for the amputation of the thigh, excision of the wrist, amputation of the hip, and bloodless operations through properly applied pressure;

He was the first surgeon to do a radical breast amputation for carcinoma. Incidentally, the patient lived 20 years after the operation without evidence of recurrence.

He made great improvement in surgery of the blood vessels and bladder, and designed many instruments, not a few of which are still in use today.

He was the founder of surgical bacteriology. Sir Frederick Treves paid the following tribute to Lister:

"Lister created anew the ancient art of healing; he made a reality of the hope which for all times sustained the surgeon's endeavors; he removed the impenetrable cloud which had stood for centuries between great principles and successful practice; and he rendered possible a treatment which had hitherto been but the vision of a dreamer. The nature of his discovery—like that of most great movements—was splendid in its simplicity and magnificent in its littleness. To the surgeon's craft it was but 'the one thing needful.' With it

came the promise of a wondrous future; without it was the hopelessness of an impotent past."

The surgical technique in use today is the Von Bergmann-Schimmelbusch modification of the original Lister technique.

Von Bergmann and Schimmelbusch demonstrated that if the surgeon's hands were carefully scrubbed with soap and water and rubber gloves then put on, and if the surgeon's and assistants' gowns and the drapes and swabs that came in contact with the patient were heat sterilized, then very little chemical antiseptics had to be used. A little carbolic acid or iodine applied to the patient's skin and the sterilization of sharp knives with chemicals were all that were needed. Their whole idea was to have everything possible sterilized before it was introduced into the operation, instead of destroying germs as the operation progressed. Von Bergmann conclusively proved that just as good results could be obtained in this manner as with the original Lister technique, which called for frequent swabbing of the operative field with carbolic acid, and for the surgeon and his assistants to repeatedly dip their hands in a carbolic solution. Von Bergmann termed this predominantly heat sterilization asepsis. Although Lister had used antisepsis and asepsis as synonymous terms, strictly speaking Von Bergmann's was the choice of terms. Asepsis literally means without germs (brought sterile to the operation), while antisepsis means against germs or something that destroys them, which was the action of Lister's carbolic antisepsis technique. Bergmann steadfastly refused to have his associates point him out as the father of a new system. He publicly declared that the basic principle of "Listerism" had not been altered.

The twentieth century has been marked by tremendous advances in operative technique that have vastly extended the use of surgery in the cure of disease. The cranial and thoracic cavities can now be explored with safety by the skilled operator. During his last year of active surgery the recently departed master surgeon, Harvey Cushing, was able to reduce his operative mortality for brain tumors to 8 per cent. In the past few years the opera-

tion of pneumonectomy has added carcinoma of the lung to the long list of maladies curable by surgery.

Operations on the sympathetic nervous system have introduced a new concept. Whereas classically surgery has been concerned with a more or less direct attack on the seat of disease processes whose pathologic anatomy is well known, sympathectomy consists in the removal of apparently normal structures to correct what Crile terms a pathologic physiology. Sympathetic interruption has thus benefited such varied conditions as arterial hypertension, Raynaud's disease, megacolon, cord bladder, and even angina pectoris.

Under special conditions the use of chemical antisepsis has continued to find a place in surgery. The results in the treatment of open infected wounds in the World War by Carrel-Dakin solution are still fresh in memory. The introduction by Domagk of the sulphanilamide group of compounds for chemotherapy has added another weapon to the surgeon in preventing and combating infections of various types.

"For one to deal in the future, one must look into the past where it lies mirrored." We of the present have benefited by the teachings of these men. They have made the achievements of Marion Sims, Kinloch, Battey, Ephraim McDowell and others possible. Will history write of the great achievements of Halstead, Murphy, Crile, Cushing, Mayo and others of our immediate day? Will the efforts of our younger men be such as to permit history to write of their accomplishments? Is it too far a hope to feel that it can write that the men of this generation have solved the cancer problem?

We are living in a day of momentous changes to which surgical science must adapt itself if it is to continue its triumphant march towards new pinnacles of achievement. As Bacon expressed it:

"I have hope and wish that the nobler sort of physicians will advance their thoughts, and not employ their time wholly in the sordidness of cures; neither be honored for necessity only; but that they will become coadjutors and instruments in prolonging and renewing the life of man."

A Brief Historical Retrospect.

Ву

Robert Wilson, M. D., Charleston, S. C. Dean Medical College of the State of South Carolina

With the approaching sesquicentennial of the Medical Society of South Carolina, now serving as the Charleston County Medical Society, it seems appropriate to recall briefly a few of the distinguished group of physicians whose scientific and literary work gave Charles Town no small measure of renown as a medical center during the colonial period.

A member of the medical profession was associated with the beginnings of the colony, rendering a service of the greatest value. In 1666, four years before the first settlement on the Ashley River four miles above the site of the present city, "Mr. Henry Woodward, a chirurgeon," accompanied the expedition of Robert Sandford to Port Royal and when Sandford returned to Cape Fear this adventurous pioneer voluntarily remained behind among the Indians at Port Royal in order that he might acquire a knowledge of their customs and language that might be of service to his countrymen. It is a high tribute to Woodward that the natives treated him "with greatest love and courteseye that their rude natures were acquainted withal." The knowledge gained among the Indians by this pioneer physician and the good-will which he won were probably the means of saving the settlers at Charlestown from starvation a few vears later.

Dr. Woodward was a splendid example of the best and highest type of the physician who with determined courage and careless of life labors to extend the bounds of knowledge for the benefit of his fellow-men. His name is extinct, but his intrepid spirit and his bold genius have survived through more than two centuries in the blood of his descendants, among whom have been numbered many of the most prominent sons of the South—men who have distinguished themselves in letters, in law, in statesmanship, in journalism, in theology, in medicine and in science.

In the first three decades of the colony the most noteworthy medical event that is recorded was the establishment of quarantine regulations for the prevention of the spread of contagious diseases. This was in 1698, and was the second quarantine act passed in the colonies, that of Massachusetts in 1648 having been the first. Violators ran the risk of being fired upon by the gunner and of paying a fine.

As early as 1696 the citizens of Charlestone turned their attention to the medical care of the poor as indicated by an act passed in that year. Again in 1712 another act was passed "for the better Relief of the Poor of this Province." Apparantly this eleemosynary work was administered through the parishes of the city and some of the outstanding practitioners seem to have served the poor. About 1736 hospital accommodations were provided through the agency of the vestry of St. Philip's Parish.

After the establishment of the Royal Government physicians of a high order of attainment, most of whom were Scotsmen, began to emigrate to Carolina. In 1728 came John Moultrie, who was "descended from an ancient Scottish family possessed of landed estates known as Roscobie, between Lochlevin and Dunfermline." He was educated in Edinburgh and became a leading practitioner in the colony. In 1755 we find him president of the Faculty of Physic formed "for the support of the Dignity and Privileges and Emoluments of the Humane Art, especially of those allowed them by the King's authority, national customs. and usages of all places and provinces, Charlestown alone excepted." So it seems that already Charlestown was "unique." Let us hope, however, that some support was given the doughty faculty who bravely resolved unanimously "that after the tenth instant (June, 1755) they will give no further attendance without a reasonable fee paid at the first visit, and at every other visit during the course of their attendance." We may entertain a suspicion that the medical faculty did not enjoy universal confidence for we find Eliza Lucas writing to a London friend one November describing a headache for which she desired "meddicines" from "the good Dr. Mead."



Dr. Francis Randolph Packard, Philadelphia Guest Speaker at the One Hundred and Fiftieth Anniversary of the Medical Society of South Carolina (Charleston County).

Dr. Francis Randolph Packard was born in Philadelphia, Pennsylvania, March 23, 1870. He graduated in the biological department of the University of Pennsylvania in 1889 and continued his medical studies there receiving his M. D. degree in 1892. He was married twice, his first wife having died in 1901, and has four children. In 1894-95 he was Resident physician at the Pennsylvania Hospital and since that time has served as ex-professor of otology, Post Graduate School, University of Pennsylvania and chief laryngologist, otologist, Pennsylvania Hospital.

His war record is as follows: served as 1st Lieutenant Spanish American War; Comm. 1st Lt., M. C., U. S. A., May 16, 1917; Capt. September 1, 1917; Major October 1, 1918; sailed for France May 18, 1917 with Base Hospital 10; chief centre consultant, District of Paris, in oto-laryngology, October 1918-January 1919.

He has been President of the following organizations; the College of Physicians of Philadelphia, 1931-34; American Laryngological Association in 1931; and American Otological Society in 1935 and is a member of the American Philosophical Society, the Delti Psi; the University Barge and Rose Tree Hunt Clubs of Philadelphia.

Dr. Packard has made several contributions to medical literature. He is the author of History of Medicine in the United States, 1st edition in 1901 and 2nd edition in 1931; Diseases of the Ear, Nose and Throat, 1900; The School of Salerno, 1920; the Life and Times of Ambroise Pare, 1921; The Gold Headed Cane, 1915 and is Editor at the present time of Annals of Medical History.

medicine in question was expected the following May. We trust the headache was neither severe nor constant if she had to wait six months for its relief.

John Moultrie was the father of four distinguished sons; Dr. John Moultrie, who remained a loyalist and became Lieutenant-Governor of Florida; General William Moultrie, of Revolutionary fame; Captain Thomas Moultrie, killed at the siege of Charlestown; and Alexander Moultrie, who became Attorney General under the constitution of 1766.

Two years after the arrival of Moultrie, John Lining, another Scotchman, settled in Charlestown. Lining not only practiced medicine successfully for thirty years, but also became famous for his meteorological observations and scientific experiments which were published in the Transactions of the Royal Society of London. He was the first experimenter in America in the field of nutritional physiology and was a student of electricity, about which he corresponded with Benjamin His discussion of yellow fever, based upon his study of the epidemic of 1748, revealed a keenness of observation and a clear, logical faculty which led him to discard the currently accepted belief of its origination de novo and to assert that it was always imported, a position held by no other physician for many decades.

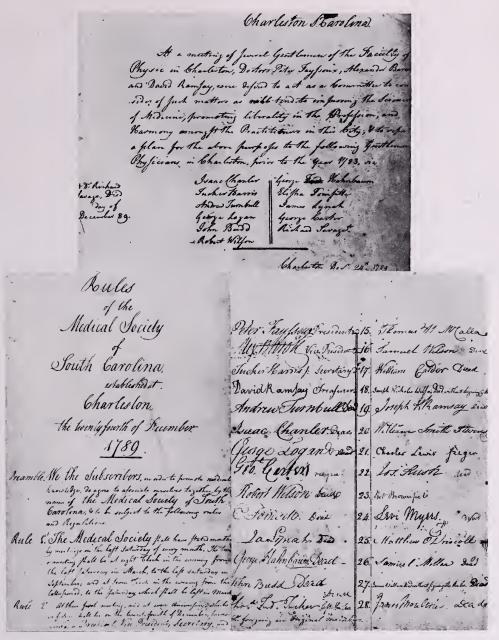
From Ireland came Dr. John Rutledge, who arrived in the province in 1735. He is chiefly famous as the father of John, Hugh, and Edward Rutledge, who played such distinguished roles in the history of South Carolina.

Another early meteorologist was Lionel Chalmers, who was a native of Cambleton on the West Coast of Scotland. For more than thirty years he practised medicine in Carolina, first in Christ Church Parish and then in Charlestown, where he spent most of his life. From 1750 to 1760 he made careful meteorological observations which were published in his work "An Account of the Weather and Diseases in South Carolina," published in London in 1776. He also wrote an "Essay on Fevers," and articles on opisthotonos and tetanus, which were published in the first volume of the Transactions of the Medical Society in London.

In 1734 at the University of Leyden, under the famous physician Boerhaave, was graduated William Bull, the first native South Carolinian and the first native American to receive the degree of Doctor of Medicine. His thesis on Colica Pictonum won for him a wide reputation and his famous fellow-student, Van Swieten, referred to him as "the learned Dr. Bull." If Bull practiced medicine it must have been for a very brief period, for he soon appears in public life, and like his contemporary, the distinguished Dr. Cadwallader Colden of New York, became the Lieutenant-Governor of his province. In such high esteem was he held by his contemporaries because of his rare judgement and his sense of right and justice, that many believed that had he been appointed dictator of the American provinces the Revolution might have been averted. Remaining loyal to the master under whom he held office, Dr. Bull left his home and took up his residence in London, where he died in 1791.

In 1748 Charlestown was visited by a severe epidemic of smallpox and Mr. Mabray, surgeon on a British man-of-war then in the harbor, introduced the preventive procedure of inoculation. In the face of much opposition the practice was adopted and carried on very successfully by Dr. James Killpatrick who afterwards removed to London where he acquired considerable reputation by his method of inoculation. This method seems to have been based upon the principle of attenuation, Killpatrick using the virus from inoculated subjects rather than from original victims.

Among colonial physicians Dr. Alexander Garden stands easily first. He was born in Aberdeenshire in 1728, and was educated in Aberdeen and in Edinburgh. Garden came to South Carolina about the middle of the Eighteenth Century and began the practice of medicine in Prince William's Parish, later removing to Charlestown. Although a classical scholar and proficient in mathematics, philosophy, history, and literature, his chief studies were in the natural sciences, especially botany, upon which his reputation mainly rests. It was in his honor that Linnaeus named a beautiful flowering shrub Gardenia. In 1772 "he was elected a Fellow of the Royal Society; and after



TOP: First entry in the original minute book of the Medical Society of South Carolina, 1789. LEFT: First rules of the Medical Society of South Carolina. RIGHT: Signatures of founders and early members of the Medical Society of South Carolina, 1789

his return to Europe in 1783 he was appointed one of its Council and afterwards one of its Vice Presidents."

More distinguished for his historical than for his medical contributions was Dr. David Ramsay, friend of Benjamin Rush, who settled in Charlestown just prior to the Revolution, in 1773. Ramsay at once took an active part in the stirring events of that period and was most active upon the side of the colonies.

This brief and cursory consideration of a few of the earlier Carolina physicians may serve to indicate the character of soil in which the Medical Society of South Carolina took root in 1789. Ours is the heritage of a fine tradition, embodying from its very begin-



Dr. Elisha Poinsett Dr. Alexander Baron Dr. David Ramsay
These three were among the founders of the Medical Society of South Carolina.

ning the restless spirit of investigation and careful clinical observation combined with broad culture. May its present and its future be worthy of its past!

PROGRAM

December 5, 1939

4:00 P. M. at the Gibbes Art Gallery

RECEPTION

Opening of an exhibit of paintings, books, prints and other material relating to the background of the Medical Society of South Carolina and to its early members.

Refreshments.

7:30 P. M. at the Francis Marion Hotel

BANQUET

Welcome by Henry W. Lockwood, Mayor of Charleston.

Welcome by Burnet R. Maybank, Governor of South Carolina.

An Historical Sketch of the Medical Society of South Carolina, Dr. James J. Ravenel, President.

Presentation of a Tablet from the South Carolina Medical Association to the Medical Society of South Carolina, Dr. William Weston of Columbia. Greetings from the President of the South Carolina Medical Association, Dr. Douglas Jennings of Bennettsville.

An American Health Program, Dr. Nathan B. Van Etten of New York, President-Elect of the American Medical Association.

Scientific Links between Charleston and Philadelphia in the Eighteenth Century, Dr. Francis R. Packard of Philadelphia, Editor of the Annals of Medical History.



Dr. James Moultrie and Dr. James Moultrie, Jr. The former was first President of the South Carolina Medical Association and later President of the American Medical Association.



Joseph I. Waring, Secretary and Treasurer of the Medical Society of South Carolina, 1939.



James J. Ravenel, President of the Medical Society of South Carolina, 1939.

NEWS ITEMS



Robert L. McCrady, Vice President of the Medical Society of South Carolina, 1939.

The Medical Society of South Carolina celebrates on December 5th its one hundred and fiftieth anniversary. This is considered quite an occasion, for not only is one hundred and fifty years quite a record but the Society is the fourth oldest medical society in America, and is almost co-eval with the American Government.

The Medical Society of South Carolina is really the Charleston County Medical Society. Because it is one of the mother societies of the American Medical Association, and because under its charter it holds quite an endowment fund, the American Medical Association has allowed it to retain its original name.

The exercises commemorating the one hundred and fiftieth anniversary will follow the general plans of those of the one hundredth anniversary. We hope to have the Mayor of Charleston extend greetings; the Governor respond to the toast the State of South Carolina; an address by the retiring president; a few words of greeting from the president of the

South Carolina Medical Association; an address by the president-elect of the American Medical Association, and an address by Dr. Francis R. Packard of Philadelphia.

The Society will have as its guests representatives from the South Carolina Medical Association and a representative from each of the organized county medical societies.

The banquet will be at the Francis Marion Hotel at 7:30 P. M. and we hope that many of our friends throughout the State will join with us, lending support and dignity to this unusual occasion.

Except for the invited representatives of the various societies, the ticket to the banquet will be three dollars (\$3.00). All who are planning to come will please notify Dr. J. I. Waring, No. 77 Rutledge Avenue so that they may be adequately provided for.

James J. Ravenel, M. D., President.

The Medical Society of South Carolina was founded December 24, 1789 by a group of physicians of Charleston, led by Drs. Peter Fayssoux, Alexander Baron, and David Ramsay. Although Charleston had many distinguished physicians before this time, they had never established any permanent Medical organization, even though the background of Colonial Medicine in Charleston was filled with notable figures whose work was well recognized at home and abroad.

Included in the original plan for the Society was an arrangement for a Public Dispensary, which was promptly opened and successfully conducted. The collection of valuable medical books which still remains in the possession of the Society was started in 1789 by the donation of various volumes by Drs. Robert and Samuel Wilson, and with later donations and purchases, grew into a circulating library of great value to the members.

In the early days of the Society meetings were held at the homes of the members, later at various taverns, in the Court House, in the old Medical College, then at the old Roper Hospital on Queen Street and finally in the present Roper Hospital. This hospital is now owned and operated by the Medical Society,

and owes much of its earlier development to the benefactions of Mr. Alexander Shirras and of Mr. Thomas Roper. It is today the largest general hospital in South Carolina.

The Medical Society has initiated and sponsored many activities aimed at promoting the health of the city. At one time it conducted a Botanical Garden which was a scientific exhibit and a public pleasure. It also recorded observations of the weather for many years, and purchased an apparatus for the resuscitation of drowned persons. In its earlier days it was frequently consulted as an unofficial board of health by the civic authorities.

In 1822 a Medical College was established under the auspices of the Medical Society, whose members conducted the enterprise without financial aid from the Society or from the state, until at a later date the college assumed its present status and name—viz: The Medical College of the State of South Carolina.

Two medical journals, the "Carolina Journal" and the "Southern Medical and Surgical Journal" were products of the members of the Medical Society. Many scientific contributions in the form of books or articles have come from the membership of the Society in its long years of existence. The Society is fortunate in possessing the original minutes from the time of its establishment, and the new member today still signs his name in the book in which the minutes of the first meeting were written.

For a long time this Society was the only medical organization in South Carolina. In 1848 the Medical Society of South Carolina called a convention which formed the South Carolina Medical Association, of which the older Society then became a constituent member, although it retained its original name. One of its members, James Moultrie, was elected President of the new organization. Three years later, when the fourth annual meeting of the American Medical Association was held in Charleston, Dr. Moultrie was elected President of that National body.

The Medical Society of South Carolina now includes 106 members, and embraces the territory of Charleston County.

Joseph I. Waring, Secretary-Treasurer.



Dr. Nathan B. Van Etten, New York, N. Y.
President Elect American Medical Association, Guest Speaker at the One
Hundred and Fiftieth Anniversary of the Medical Society of South Carolina
(Charleston County)

THE JOURNAL

OF THE

South Carolina Medical Association

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DECEM	BER. 1939		

CELEBRATION OF THE ONE HUNDRED AND FIFTIETH ANNIVERSARY MEDICAL SOCIETY OF SOUTH CAROLINA

This issue of the Journal has been dedicated to the Medical Society of South Carolina (Charleston County) the Mother Society of the South Carolina Medical Association. We extend our sincere felicitations to the Mother Society on attaining the one hundred and fiftieth anniversary of her founding and also on the distinguished service she has rendered not only to the medical profession of South Carolina but to the far flung empire of science in many parts of the world.

When the Medical Society of South Carolina was founded in 1789 the founders evidently had in mind that the Society would function as a State Society along with the State Societies of New Jersey 1766, Massachusetts 1781 and Delaware 1789, but following the organization of the American Medical Association in 1847 other plans for state organizations were adopted all over the country. It is fitting therefore that we present a copy of the minutes of the organization of the South Carolina Medical Association.

Minutes of the Proceedings of the Medical Convention of South Carolina Held in Charleston, February 14, 1848

In pursuance of a call made upon the Medical Profession of South Carolina by the Medical Society of South Carolina, a large number of physicians from all parts of the State, convened at 10 o'clock this morning, in the Hall of the Apprentices' Library Society.

On motion of Dr. W. T. Wragg, of Charleston, the meeting came to order, and Dr. James Moultrie, of Charleston, was called to the Chair, and Drs. D. J. C. Cain, of Charleston, and R. B. Johnson, of Camden, were appointed Secretaries.

On motion of Dr. W. T. Wragg, a committee of one from each District represented, was appointed to nominate permanent officers of the Convention. It was also resolved that the officers shall be a President, two Vice-Presidents, and two Secretaries.

The Committee was constituted as follows:

Dr. W. T. Wragg, of Charleston.

Dr. T. B. Dendy, of Abbeville.

Dr. H. W. Ford, of Colleton.

Dr. A. W. Youngblood, of Edgefield.

Dr. S. Fair, of Richland.

Dr. R. B. Johnson, of Kershaw.

Dr. R. E. Wiley, of Lancaster.

Dr. J. A. Mayes, of Sumter.

Dr. W. M. Shuler, of Orangeburg.

Dr. W. K. Sims, of Union.

Dr. J. R. Bratton, of York.

Dr. Alex Williams, of Chesterfield.

The Committee retired for a few minutes, and on their return, nominated the following gentlemen as officers of the Convention, who were thereupon unanimously elected: Dr. James Moultrie, of Charleston, President Dr. J. C. Ready, of Edgefield, Vice President Dr. Isaac Branch, of Abbeville, Vice President Dr. D. J. C. Cain, of Charleston, Secretary Dr. R. B. Johnson, of Camden, Secretary.

The Convention was then organized and proceeded to business.

The new State organization pursued its course vigorously until the on-coming of the War between the States from 1861 to 1865. In 1869 a reorganization was effected and from that day to this there has been no further interruptions in the orderly sequence of meetings.

In 1904-05 the great reorganization plan of the American Medical Association was put into effect so that the county medical society became the corner stone of organized medicine in this country but instead of restricting the beneficent influence of the Medical Society of South Carolina (Charleston County) on State Medical Association affairs her wise counsels and far reaching initiative became more helpful.

The Charleston Society has made a profound impress on many of the major epochs of public health and medical progress in the State. The Journal owes its existence to members of the Charleston County Medical Society and it is not too much to say that the unfailing support of the Journal by the members of this Society has had much to do with

keeping the Journal alive for thirty-five years.

The cooperation of the Medical Society of South Carolina (Charleston County) with the South Carolina Medical Association has indeed been most cordial throughout the entire history of the State organization. Perhaps the strongest tie between the two organizations has been that of a mutual interest in medical education and support of the Medical College of the State of South Carolina. The very first resolution adopted at the organization of the State Medical Association was to invite the presence of the faculty of the Medical College and the next was a mutual agreement to cooperate in raising the standards of medical education.

We wish to re-emphasize and rejoice with the Medical Society of South Carolina on its proud record as having played a significant part in the organization of the American Medical Association in 1847. In many respects 1847 was the golden age of medicine in the South and Charleston was in the very center of much of this activity numbering among the members of the medical profession there some of the most famous physicians in the world.

With one hundred and fifty years of glorious achievement behind her the future of the Medical Society of South Carolina seems assured of still greater progress.

BOOK REVIEWS

SYNOPSIS OF CLINICAL LABORATORY METHODS: By W. E. Bray, B. A., M. D., Professor of Clinical Pathology, University of Virginia; Director of Clinical Laboratories, University of Virginia Hospital. Fifty-One Text Illustrations. Seventeen Color Plates. Second Edition. Price \$4.50. The C. V. Mosby Company, St. Louis, Missouri. 1938.

This is an excellent manual first published as a ready reference of the most frequently used methods of laboratory diagnosis after a long experience by the Author in teaching medical students and laboratory technicians. The popularity of the volume calls for another edition within two years in order to bring it up to date. This second edition includes sections on Undulant Fever, Determination of Sulfanilamide in the Blood, Cough Plate Method for Diagnosis of Whooping Cough, etc. There is a

section on Surgical Pathology. There is a section on Indicators, Stains and Staining Solutions, Reagents, Removal of Laboratory Stains, Atomic Weights and Table of Equivalents. It is a handy volume for not only the medical student but the busy doctor. There are a large number of illustrations.

CLINICAL GASTROENTEROLOGY: By Horace Wendell Soper, M. D., F. A. C. P., St. Louis, Missouri. With 212 Illustrations. C. V. Mosby Company, St. Louis, Missouri, 1939.

The object of this work is to cover the field of gastroenterology with particular emphasis on diagnosis and treatment. It is written not only for the specialist in diseases of the digestive system, but also for the internist and the general practitioner of

medicine. The author of this book recognizes that to make a so-called complete gastroenterologic examination requires a somewhat extensive equipment but at the outset he has endeavored to show that much good work may be done by simple methods available to most general practitioners. He makes a good point in that in this field the general practitioner often sees the patient first and upon his decision depends very largely the success or failure of the subsequent treatment of the case. He even thinks that the tongue once universally examined but in more recent years not stressed very much is still worthy of being considered in a diagnostic check up. Of course any work of this character necessitates a generous presentation of illustrations, X-ray and otherwise, and here the author has not failed to do this to the number of more than two hundred. Peptic Ulcer comes in for a very full study. There is an interesting chapter on obesity and the final chapter is on Therapeutic Notes of a very practical The bibliography is satisfactory and the entire book very interesting indeed.

OPERATIVE ORTHOPEDICS: By Willis C. Campbell, M. D., Memphis Tennessee, with 845 Illustrations including 4 color plates. 1939. Price \$12.50. C. V. Mosby Company, St. Louis, Missouri.

Orthopedic surgery has made spectacular strides in the South in recent years and this book is a highly creditable contribution representing this progress. The author has intended the book to be a comprehensive work not only for the specialist but for many industrial and general surgeons. The field of the orthopedic surgeon has broadened very considerably in recent years and is by no means entirely operative in scope. The author recognizes this view-point in his book. This is a magnificent volume replete with an extraordinary number of fine illustrations. It is gratifying to note that the author has given credit to Dr. Austin Moore of Columbia, S. C., Associate Editor of the Journal of the South Carolina Medical Association, in orthopedic surgery for his method of internal fixation of fracture of the neck of the femur by stainless spring steel pins. Orthopedic surgeons now treat a large number of fractures so the author has written extensively on this subject. This is a book of more than one thousand pages and may well become an authoritative volume for both the general practitioner and the surgeon.

NEW AND NONOFFICIAL REMEDIES: Containing Descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1939. The American Medical Association, 535 North Dearborn Street, Chicago, Illinois. 1939.

The descriptions of accepted articles are based in part on investigations made by, or under the direction of the Council and in part on evidence or information supplied by the manufacturer or his agents. Statements made by those commercially interested are examined critically and admitted only when they are supported by other evidence or when they conform to known facts.

It is generally conceded that the Council on Pharmacy and Chemistry of the A. M. A. being one of the first of the great Councils established by the national association has rendered an extraordinary service to the people of the United States. If there was a closer adherence to the findings of this Council in the practice of medicine a much more satisfactory type of practice would probably be The Council maintains a laboratory established. second to none for testing out any and all remedial agents and reporting on the same. In this volume for instance there is a considerable report on anesthetics and this is extremely important in view of the vast literature and experimentation in progress throughout the world. Then the serums and vaccines come in for due investigation. Hundreds of other remedial agents have been studied and this report makes up a considerable volume of some seven hundred pages and should be available to every physician.

PRIMER OF ALLERGY: By Warren T. Vaughan, M. D., Richmond, Va. Illustrations by John P. Tillery. Price \$1.50 The C. V. Mosby Company, St. Louis, Mo. 1939.

This is a guidebook for those must find their way through the mazes of this strange and tantalizing state. This subject seems to be of universal interest at the present time and the author has endeavored with good success to weave many essential truths about allergy through this little volume not only in the text but by means of the permission of H. T. Webster and the New York Herald Tribune to include Mr. Webster's cartoons.

SYNOPSIS OF PEDIATRICS: By John Zahorsky. A. B., M. D., F. A. C. P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, Pediatrician in Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics. Assisted by T. S. Zahorsky, B. S., M. D., Instructor in Pediatrics, St. Louis University School of Medicine. Price \$4.00. The C. V. Mosby Company, St. Louis, Missouri.

This book was first published in 1934 and now comes the third edition thoroughly revised and with a very large number of admirable illustrations. The author is one of the Senior Professors of Pediatrics in America and he has incorporated in this manual a safe and sound plan of pediatric procedures particularly worthwhile for the general practitioner.

PSYCHOBIOLOGY AND PSYCHIATRY: A Textbook of Normal and Abnormal Human Behavior. By Wendell Munchie, M. D., Associate Professor of Psychiatry, Johns Hopkins University. With foreword by Adolf Meyer, M. D., LL. D.,

Sc. D., Henry Phipps Professor of Psychiatry and Director of the Department of Psychiatry, Johns Hopkins University. With 60 Illustrations. Price \$8.00. The C. V. Mosby Company. St. Louis, Mo.

This book is a splendid treatise from the world famous Johns Hopkins Psychiatric Clinic. From which has gone out a profound impression on medical education in this country as pertains to psychiatric training of medical students. For instance in Chapter Two the following notation is taken. "For practical purposes the student is asked to make a study of a specific person, preferably himself, with the obligation to make the study as objective as possible by use of concrete performances to illustrate the points covered. Further, in order to stress the objective character of the observation and to give training in observation in, and understanding of the range and variation of the normal, the student is asked to give a characterization of the three most dissimilar students." The study further includes an autobiography by the students, etc. In fact there is a considerable chapter devoted to this phase of the student's orientation in his studies of psychiatry. From this point it is considered that he will have a clearer understanding of the subject when he gets out into actual practice.

Much is said today about behavioristic tendencies in early life. This book gives a considerable place to such investigations. Of course after the doctor makes the diagnosis modern medicine demands that something be done about the treatment of the patient and of course such a work as this goes into great detail along this line. The whole volume is a master piece.

A TEXTBOOK OF NERVOUS DISEASES: By Robert Bing, Professor of Neurology. University of Basel, Switzerland. Translated and enlarged by Webb Haymaker, Assistant Clinical Professor of Neurology and Lecturer in Neuro-Anatomy, University of California. From the Fifth German Edition. With 207 Illustrations Including 9 in colors. Price \$10.00. The C. V. Mosby Company, St. Louis, Missouri. 1939.

A new textbook on nervous diseases from such outstanding authorities and of such exhaustive scope will be welcomed by the profession in this country. Dr. Haymaker of the University of California has rendered a distinct service in his excellent translation. The physiological and anatomical illustrations are very good as are the numerous illustrations. While this book is a scientific treatise of unquestioned authority as to diagnosis the treatment of nervous diseases has been well covered and in this regard the translator has done much to clarify the suggested therapeutic measures of the German author. This is a volume of more than eight hundred pages.

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, American Journal of Syphilis, Gonorrhea and Venereal Diseases, Vol. 23, No. 2, pages 201-206, March, 1939.

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THE INFANT AND CHILD IN HEALTH AND DISEASE WITH SPECIAL REFERENCE TO NURSING CARE: By John Zahorsky, A. B., M. D., F. A. C. P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Elizabeth Noyes, R. N., Supervisor and Instructor of Pediatrics, Children's Hospital, San Francisco, California. Second Edition. Price \$3.00. 1939. C. V. Mosby Company, St. Louis, Missouri.

This book has been written from the standpoint of the nurse. It contains a great deal of valuable information for the practising physician. There are many clear cut illustrations throughout the text.

CARDIOVASCULAR DISEASES. THEIR DIAGNOSIS AND TREATMENT: By David Scherf and Linn J. Boyd, M. D., F. A. C. P., Associate Professor of Clinical Medicine and Professor of Medicine respectively. The New York Medical College, Flower and Fifth Avenue Hospitals. Price \$6.25. 1939. The C. V. Mosby Company, St. Louis, Missouri.

The authors state that in general the text has been suggested by student enquiries in the lecture room or by observation of their endeavours to apply information at the bedside. The authors state also that they have not intended to write a textbook of comprehensive proportions but on the other hand rather a practical manual for the student and physician in the ordinary pursuit of ways and means for treating the patient. Of course there is due emphasis on the role of digitalis in the treatment of these diseases along with many other measures found to have been of value. There is a chapter on diet.

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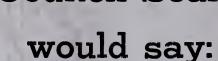




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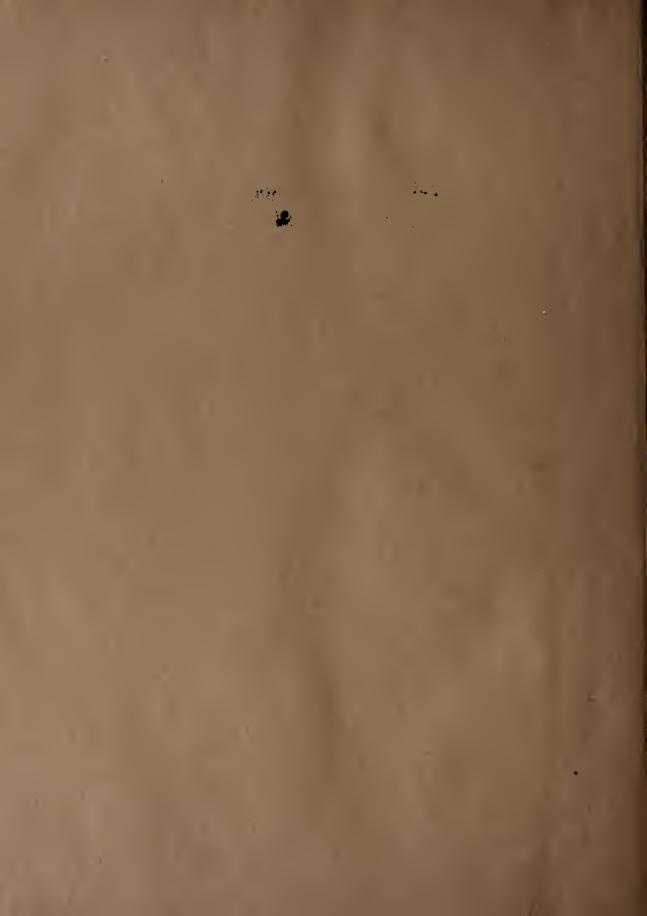
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